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INVESTIGATION OF FAMILY LEARNED BEHAVIOR AS RELATED TO PERSONAL INTERACTIONS OUTSIDE OF THE FAMILY. FINAL REPORT.

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The purpose of the study was to investigate the proposition that subjects under stress will, in their behavioral interaction with significant persons, recapitulate the behaviors learned by the subject within the family constellation. The counseling interview was the model used to investigate the relationship between family learned behavior and non-family interaction. The general design of the study consisted of selecting a sample of (N=16) male and (N=23) female subjects and studying their initial interviews and a sample of later interviews selected by a critical incident method. The interactions of subjects were scored according to the interpersonal rating method of Freedman, LaForge, Leary, and others. The central hypotheses of the study were strongly supported. Over time and under conditions of stress, the subjects' behaviors converged on intra-familial behavior with parents. In addition, reciprocal behaviors of the subjects in interaction were found to be predictable events. The subject-counselor interactions were in accord with previous research and resembled the subject-parent interaction with some notable exceptions. The results were discussed and recommendations for continuing research into personality development and counseling behavior were outlined. (Author)

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Final Report

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Investigation of Family Learned Behavior As Related to Personal Interactions Outside of the Family

An Interaction Analysis of Counseling Related Behaviors

William J. Mueller

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East Lansing, Michigan

February 1968

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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SUMMARY

As a student interacts with peers, teachers, administrators, and other members of the university community, he utilizes a range of behaviors which provide him with the means for coping with university life and effectively working toward completion of a program of instruction. If the range of behaviors that the student can master to meet new conditions is limited, one may expect that the repetition of a few behaviors will lead to poor adaptation and failure. On the other hand, if the student's behavioral responsivity is varied and based on sound reality testing, one may expect better adaptation to the demands of the institution.

The purpose of this pilot study was to investigate the proposition that subjects under stress will, in their behavioral interaction with significant persons, recapitulate the behaviors learned by the subject within the family constellation. The major premise of this proposition is that a subject's interaction in the family unit is the stimulus for all expanded adult behaviors with extra-familial significant persons. The corollary to the proposition is that if antecedent intrafamilial behavior is the generic model for subsequent adult behavior, then study of the behavioral components of the generic model can provide a useful method for modifying ineffective interpersonal behavior.

It was decided to use the counseling interview as the model for investigating the relationship between family learned behavior and non-family interactions. In counseling, a subject often develops a relationship which is significant to him and in which his behavior with the counselor can be construed as being representative of his usual behavioral modes of reacting to and coping with a stressful situation. At the same time that a subject in counseling is behaviorally reacting to and interacting with the counselor, he is recalling and reporting significant events and the behaviors by which he learned to cope in those intrafamilial situations.

The central proposition of the study was converted into a series of hypotheses formulated within three lines of inquiry. The first two lines of inquiry consisted of investigating the similarity of behavioral patterns within several dyadic interactions and under different stress conditions. Comparisons were made between the behaviors expressed in three dyadic interactions: counselor-subject; subject-others; and subject-parents. The varying conditions of stress consisted of comparing interaction in initial interviews with those occurring in later interviews in which critical incidents had occurred.

The general design of the study consisted of selecting a sample of (N=16) male and (N=23) female subjects who were seen for at least six interviews and studying their initial interviews and a sample of later interviews during which the subject was under stress and in which a significant change had occurred in the subject's identification scores. The interactions of the subject with his counselor and his reported interactions and recalled memories of interactions with parents and others were analyzed according to the interpersonal rating method formulated by Freedman, LaForge, Leary, and others.

To investigate the hypotheses developed along the first line of inquiry, the patterns of subject behavior in the three dyadic interactions were compared. In the second line of inquiry, pattern similarity within different dyads during later interviews was compared with initial interview behavior. The third line of inquiry was an investigation of the reciprocity principle that interactional behavior is non-random. Previous research was invoked to establish directional hypotheses about the nature of the behaviors elicited during interaction.

The hypotheses formulated along the first line of inquiry were in the direction opposite the predicted one. The subjects' behavior with others was more similar to their "generalized responsivity to others" than to the counselors with whom they were interacting.

The directional hypotheses regarding the second line of inquiry were demonstrated. When the behavior sent by subjects to parents was compared with those sent to counselors, the later interview behavior directed at counselors was significantly more like the behavior sent to parents than was their first interview behavior.

The data from the third line of inquiry supported the hypotheses that the reciprocal behaviors of subjects in interaction with counselors and others are predictable events. The subject-counselor interactions were in accord with previous research and resembled the subject-parent interaction with some notable exceptions. Additional exploratory analyses were conducted to clarify the meaning of certain subject-parent interactions.

The central proposition of this study was strongly supported along two lines of inquiry. Over time and under conditions of increased stress and significance of a relationship, the subjects' behaviors converge on intra-familial behavior with parents. When this information is coupled to the findings from the third line of inquiry that the behaviors of subjects in interaction are predictable events, numerous implications are forthcoming.

The evidence from this study supports two critical factors regarding counseling relationships. Since responses to stress lead to the recapitulation of learned modes of coping to reduce threat, the counselor is in a key position to assist the subject in changing ineffective modes of coping. Secondly, since the evidence supports the fact that the counselor's mode of behaving with the subject has impact on the subject's behavior, the counselor can provide the subject with an emotional climate through which he can change.

Studies such as this one also provide information about the consequences of behavioral interactions with significant persons which seem particularly relevant to education. If the teacher were aware of the intent of student elicitations and of the consequences of his own behavioral intervention he would be in position to elicit student behavior which would lead to more effective behavior and reduce response patterns which inhibit learning.

INTRODUCTION

As a student interacts with peers, teachers, administrators, and other members of the university community, he utilizes a range of behaviors which provide him with the means for coping with university life and effectively working toward completion of a program of instruction. Some students utilize behaviors which facilitate their development in the university community and eventually in the larger society. Others, however, interact in such ways with peers and authority figures that they do not achieve their purpose at the university. In the case of these students, the ways that the student has learned as means of coping with his environment seem to elicit responses from others which are deleterious to his progress and unless he increases or changes his repertoire of response patterns, he may leave the university.

In a university setting, the student needs to utilize a wide range of coping modes if he is to meet the demands of the variety of unique situations in which he must interact during his university career. If the range of behaviors that the student can successfully muster to meet new conditions is limited, one may expect that the repetition of a few behaviors will lead to poor adaptation and failure. On the other hand, if the student's behavioral responsivity is varied and based on sound reality testing, one may expect better adaptation to the varied demands of the institution.

The student whose attempts at coping are limited because more adaptive methods have provoked anxiety in the past will be unable to expand his repertoire because of the activation of anxiety. He will be disabled by his inflexibility. His failures will then probably increase his tension state and eventuate in regression to even more rigid and limited modes of coping and a tightening of the exploratory and creative process necessary to succeed in the university community.

The most impressive body of empirical research about the network of interpersonal effects stimulated by the behaviors of subjects in interaction has been advanced by the research group of the Kaiser Research Foundation during the early 1950's. Freedman, et al (5), LaForge, et al (10,11), Leary (12) and others have integrated the research endeavors of that group and reported a compelling amount of evidence in support of several hypotheses about the interpersonal behaviors of subjects in interaction.

In general, it has been found that classes of behaviors do elicit predictable responses from others. Further, the structure of the stimulus behaviors has been associated with differences in the nature of the emotional problem experienced by the subject. Moreover, the breadth of the repertoire of behavioral modes of coping have been found to be an index of mental health. The more emotionally disturbed the subject the more limited his repertoire (12). The validity of these propositions that interpersonal response patterns are lawful and differentiating has been demonstrated by several other researchers and often with regard to family interaction patterns (6,7,13,23,24,29).

The sources of these different modes of coping which may lead to inflexibility or adaptation in the adult are often assumed to reside in previous family interactions. From this point of view, it is assumed that through the earlier interactions in the family the child has learned which behaviors are likely to be rewarded or punished. These behaviors which provoke anxiety may be dropped from the person's repertoire while other behaviors are repeatedly re-enacted if they have been found useful as a means of mastering anxiety.

The theoretical position that previous problematic encounters are the sources of anxiety and that those interactions have a modifying effect on later interpersonal behavior has been repeatedly advanced and confirmed in clinical settings by practicing counselors of a variety of orientations. Regardless of difference in theories about the method of treatment by which inappropriate behaviors are modified, most theories of personality development derived from clinical practice consistently speculate in this direction.

Statement of the Problem

When the clinical speculation that the young adult's interpersonal relationships are adaptations based on previous anxiety provoking and need satisfying interactions within the family is coupled to the empirical evidence that behaviors elicit predictable reciprocal behaviors, a wide range of questions about these relationships is stimulated.

General Research Aims

The research objectives of the pilot study to be described later are related to a broader set of research objectives and the findings of the pilot study can serve as a springboard for a series of investigations about the interpersonal interactions of young adults.

In the broadest sense, the general research objectives of these investigations are to study the nature and modificability of the emotional problems experienced by students which reduce or restrict their adequate functioning in a university setting. More specifically, it is the purpose of this body of research to study the question of how the ineffective interpersonal behaviors of university students have developed within the family; how the behaviors become generalized to extrafamilial relationships; and whether they can be modified by studying the family relationship as a generic model for the adult behaviors.

This problem can be recast into the following framework for research about personality development and change:

> To study previous family interactions as the generic behavior model from which the student generalizes to his extrafamilial relationships;
>
> To study the effects of antecedent intrafamilial interactions on the consequent emotional problems of young adults;
>
> To study the potential modifiability of differing kinds of inappropriate modes of coping;
>
> To study the counseling process which effectively modifies ineffective coping methods.

The proposition basic to all four of these objectives is that the subject's intrafamilial interaction represents the generic model which serves as the stimulus for the subject's future interpersonal behaviors. The corollary is that modification of current ineffective behavior can be achieved by studying the generic model as a miniature of all expanded adult behavior and then utilizing the components of the model as a method for modifying the inappropriate behaviors.

The Pilot Study

One of the first steps in demonstrating this central proposition was to test the validity of its major premise. Specifically stated, this pilot study was conducted to investigate the proposition that a young adult, in his current significant interactions, will behave in ways which are similar to interactions that occurred within the family constellation. To meet this objective, the pilot study was designed to provide a method for studying subjects in a situation in which significant intrafamilial and extra familial behaviors could be sampled.

The critical elements of the study were that (1) The behaviors sampled in the study be significant ones; that is, they must be behaviors which constituted the subject's usual repertoire of modes of coping with conflict in his interpersonal relationships, (2) The relationship be a significant one; that is, the person with whom the subject was interacting must be important to him; and (3) The design provided for a comparison of a subject's behavior as it occurred in family interactions with that of his behavior with a nonfamily member.

It was decided that the counseling relationship provided a method for studying the similarities of a subject's behavioral interactions in familial versus extrafamilial encounters. In counseling, a subject often develops a relationship which is significant to him and in which his behavior with the counselor can be construed as being representative of his usual behavioral modes of reacting to and coping with a stressful situation. At the same time that a subject in counseling is behaviorally reacting to and interacting with the counselor, he is recalling and reporting significant events and the behaviors by which he learned to cope in intrafamilial situations.

It may be important at this time to elaborate on the central proposition of this study. Basically, it was proposed that the behaviors that a subject has learned in his family as a means of resolving conflictual situations are generalizable to later significant interactions. That is, a subject will when he is under stress behave in ways which are similar to the ways that he warded off anxiety within the family constellation.

Moreover, it was proposed that when a subject is under stress in a counseling situation and when the counselor has become important to him, he will recall interactions that occurred between his parents and himself which were structurally similar to the kinds of behaviors that he actually attempts to elicit from his counselor.

The basic work which led to this proposition was formulated by Kell and Mueller (8). In that book the authors reported the results of the analysis of a large number of tape recorded interviews of counseling sessions involving many counselors and clients. One of the recurrent themes the authors noted was that of the "eliciting" behaviors. These behaviors were the "interpersonal methods that the client ... learned [as a means to cope] with anxiety. [These] behaviors were learned by the client as a result of previous interactions with persons who were significant to him". (8,p.47)

The authors further noted that when the client was under stress and "when the relationship becomes intense, ... the client chooses events out of his past and symbolically presents them to the counselor ..." (8,p.40). These events were often reports of previous interactions between the client and his parents, and it was found that at the same time that the client was reporting these interactions, he was simultaneously establishing an interaction with the counselor in which the behavior was structurally similar. That is, a parallel set of behaviors occurred in which one set of behaviors referred to the recall of the client's more generic interactions with his parents and the other set referred to the ongoing relationship with the counselor.

It can be seen from the basic proposition in this study that the purpose of this study was neither to predict the nature of the behavioral interactions of a subject from his previous modes of coping nor was it to study the counseling behavior which may lead to modifications of the behaviors. These questions are the subject matter of later research. If the basic proposition of this study is demonstrated, the research base can then be broadened to investigate (1) the consequences of particular behavioral interactions in the family on the consequent emotional problems experienced by young adults; and (2) the counseling process by which ineffective behavioral interactions can be modified.

Significance of the Research for Education

The study of the relationship between antecedent family interactions and later significant modes of behaving with others through the analyses of the interactions of persons who are in counseling could eventually lead to a deeper understanding of the process of human interaction which leads to emotional problems. Provided that a student's behaviors with significant non-family members in the university community were found to be similar to behaviors that occurred within the family constellation, further studies could then be developed to study the nature of the learned behaviors which are conducive to particular behavior problems or to good mental health. In this way, the pilot study could contribute to additional hypotheses about personality development and to the development of a method for remedial and preventive work with students who experience problems in their interpersonal behaviors.

The educational implications of the results of such research studies as the one reported herein are numerous. Currently there is much emphasis on the necessity for sensitivity training among educators. One purpose of this training would appear to be that such sensitivity to student needs would permit the educator to provide an emotional environment which would be most conducive to student learning.

Studies such as this one provide information about the consequences of behavioral interactions with significant persons which seem particularly relevant. If the teacher were aware of the intent of student elicitations and of the consequences of his own behavioral intervention he would be in a key position to elicit student behavior which would lead to more effective behavior and reduce response patterns which inhibit learning.

Statement of the Hypotheses

To investigate the proposition that a subject's behavior under stress and during a significant interaction will replicate previously learned modes of coping with stress, a number of specific research hypotheses and questions were formulated. The hypotheses and questions of this study were divided into three classes of inquiry: (1) the similarity of behavior in different dyadic interactions; (2) the similarity of behavior in dyadic interactions under different conditions; and (3) the reciprocal relationship of behavior in different dyadic interactions and under different conditions.

First line of inquiry:

The first class of questions are investigations about the similarity of behavior in different dyadic interactions. These questions are based on considerations of the pattern of interactions without regard for the form of the behavior. That is, the hypotheses framed within this line of inquiry propose to answer questions about pattern agreement between groups of participants in interaction regardless of nature of the behavior expressed.

During counseling, does a subject behave with his counselor in ways that are similar to his interaction patterns with other significant persons, such as relatives, peers, and teachers? Is his behavior toward his counselor similar to the subject's behavior towards his parents?

Is there a difference in the subject's behavior toward his counselor in early as opposed to later interviews? As counseling continues, does the subject's behavior become more similar to his behavior with parents and others?

These kinds of questions led to the formulation of the following hypotheses:

H: While under stress and during significant interaction with a counselor, a subject's behavior will replicate his behavior in other significant encounters.

H_1: There is no difference in the pattern of behavior of the subject toward his counselor than in the pattern of behavior toward others.

H_{1a}: There is no difference in the pattern of behavior of the subject toward his counselor in early interactions than in the pattern of behavior toward others.

H_{1b}: There is no difference in the pattern of behaviors of the subject toward his counselor in later interactions than in the pattern of behavior toward others.

H_{1c}: There is no difference in the pattern of behaviors of the subject toward the counselor in later interactions than in the pattern of behavior toward others regardless of when material was recalled.

H_2: There is no difference in the pattern of behavior of the subject toward his counselor than in the pattern of his behavior toward his parents.

H_{2a}: There is no difference in the pattern of behavior of the subject toward his counselor in earlier interviews than in the pattern of his behavior toward his parents.

H_{2b}: There is no difference in the pattern of behavior of the subject toward his counselor in later interviews than in the pattern of his behavior toward his parents.

Second line of inquiry:

The second class of questions are investigations about the similarity of behavior in dyadic interactions under different conditions. Basically, these questions are based on the proposition that as the subject continues in counseling, he may begin to behave toward the counselor in ways which are increasingly similar to his previous interactions with his parents and other significant persons.

If Kell and Mueller (8) are correct, then one may expect that as the subject continues in counseling his behavior with the counselor will become increasingly similar to his behavior with parents. The subject will begin to re-enact unresolved problematic situations while simultaneously recalling anxiety provoking events which were associatively close in structure to his current behavior.

H_3: There is an increasing amount of similarity in patterns of behavior of the subject toward his counselor as compared to previous interactions with others.

H_4: There is an increasing amount of similarity in patterns of behavior of the subject toward his counselor as compared to previous interactions with parents.

Third line of inquiry:

The third set of questions are based on the proposition that the subject's behavior will elicit predictable responses from the other participant of the interaction dyad. These hypotheses are based on investigating the structural relationship between classes of behaviors and purport to answer such questions as whether a specific kind of behavior tends to pull predictable counter behaviors. One of the hypotheses is based on the proposition that the subject in interaction with his counselor will have learned from him which behaviors are rewarded and punished as he did previously in family encounters. The latent effects of such learning will contribute to the subject's diminishing use of those response patterns.

Does the behavior of the subject elicit predictable counter behavior from his counselor, from parents and others? Which reciprocal behaviors are most highly correlated? Does dominant behavior pull submissive behavior; hostile behavior elicit counter-hostility? Is affiliation countered with nurturant behavior? Or does the reciprocity principle vary with the situation in which the subject is interacting?

These questions were reframed as the following hypotheses:

H: While under stress and in interaction with significant persons, subjects will elicit predictable responses by their behaviors.

Subject-Counselor Interactions:

H_5: Subjects in interaction with counselors will elicit predictable counter-behaviors from their counselors.

H_{5a}: Subjects in interaction with counselors during first interviews will elicit predictable counter-behaviors from their counselors.

H_{5b}: Subjects in interaction with counselors during later interviews will elicit predictable counter-behaviors from their counselors.

H_{5c}: The interaction of subjects with counselors in later interviews will reflect the latent effects of earlier counselor responses.

H_{5d}: Counselor responses in later interviews will reflect the latent effects of earlier client elicitations.

Subject-Other Interactions:

H_6: The self-reported interactions of subjects with others will elicit predictable counter-behaviors from others.

H_{6a}: The self-reported interactions of subjects with others during early interviews will elicit predictable counter-behaviors from others.

H_{6b}: The self-reported interactions of subjects with others during later interviews will elicit predictable counter-behaviors from others.

Subject-Parent Interactions:

H_7: The self-reported interactions of subjects with parents will elicit predictable counter-behaviors from parents.

Summary

In this section of the report, the problem was stated and the general research objectives were defined. The pilot study was reviewed and its relationship to the overall research purposes was described. The central proposition of the pilot study was then converted into a series of null and directional hypotheses.

In the next sections, the methods of gathering data are described and the hypotheses are operationally defined. In the remainder of the report, the results of testing the hypotheses are presented and their implications discussed.

METHOD

The purpose of this section of the report is to describe the methods by which the population was defined, the sample was selected, the instruments were developed, and the counseling material was analyzed to test the study hypotheses and explore the study questions. Each phase of the general design of the study is described in detail below, but the following elements served as guidelines for the selection of clients and interviews for analysis.

The general design of the study consisted of (1) selection from a basic pool of interview tapes, a sample of male and female subjects who were seen for at least six interviews; (2) selecting for study a sample of their interviews in which the client was under stress and in which a significant change occurred in the subject's identification scores and in his concept of his counselor; (3) studying this sample of tapes, both (a) with regard to the behaviors that occurred in the subject's reported interactions with his parents, peers, and others and (b) with regard to the behaviors that occurred in the interviews as the subject interacted with the counselor; (4) recording for analysis the behavioral units in each type of encounter according to the interpersonal system of diagnosis reported later; and (5) testing the study hypotheses and exploring further study questions by analyzing the behaviors in each type of encounter and then by comparing the similarity of the behavioral interactions in the counselor versus intrafamilial interactions.

Background Procedures

Currently the Michigan State University Counseling Center houses fifty-five completely tape-recorded cases of University level clients who approached the Center for assistance regarding the emotional problems they were experiencing. Those tape-recorded interviews were systematically gathered from the counseling cases of the full-time intern, and practicum student counseling staff of the Center. In addition to the tape-recorded interviews, pre-interview MMPI data, personal data material, and repeated semantic differential measurements have been gathered for each of the cases.

Those tape-recorded interviews are the basic data from which a sample was drawn to test the study hypotheses and questions. The nature of that sample, the rationale for its selection, and a description of the procedures by which interviews were selected for analysis are described in this section.

Subjects

The subjects for this study consisted of (N=16) male and (N=23) female undergraduate subjects who approached the Counseling Center voluntarily for personal adjustment counseling, who agreed to permit their interviews to be tape recorded for research purposes, and who completed a twenty-one concept semantic differential which is described fully below.

The counselors were full-time and intern staff of the Counseling Center and practicum students to whom the participating clients were assigned on a random basis. The participating staff members consisted of seven Ph.D. level staff who hold degrees in clinical or counseling fields; fourteen interns who were Ph.D. candidates in either the clinical or counseling psychology programs at Michigan State University, and eight psychology practicum students.

In order to insure that the relationship with the counselor had become significant so that the study purposes could be met, only subjects were selected for study who continued in counseling for at least six interviews. Secondly, in order to provide the opportunity to compare the effects of sex of counselor and subject on the study questions, an effort was made to select a sample which included male and female subjects who were seen by counselors of like sex and cross sex. In figure 1 below, the sample of subjects used in this study is reported. Data are also reported in that figure regarding the professional level of the counselor. A further breakdown of the sample along with a report of the actual interviews selected for analysis is reported in Appendix A.

It can be seen in Figure 1 that the number of subjects selected for study was (N=39) and that the average number of interviews held by subjects was 14.10. These subjects were seen by ten Ph.D. staff members, twenty-one interns, and eight psychology students. It should be noted that this conselor ratio is based on the fact that several staff members and interns saw two subjects.

Figure 1

Sample of (N=39) Subjects Reported by Groups According to Sex of Subject and Counselor, Mean Number of Interviews within Groups and the Professional Level of Counselors in Each Group.

Subject x Counselor Groups	No. of Subjects in Groups	Average No. of Interviews in Group	Level of Counselors		
			PhD	Intern	Practicum
Male Co. x Female S.	15	15.53	3	10	2
Male Co. x Male S.	12	13.83	3	7	2
Female Co. x Female S.	8	15.62	2	3	3
Female Co. x Male S.	4	6.50	2	1	1
Total	39	14.10	10	21	8

A. The Critical Incident Sampling Technique

The central aspect of this study consisted of the analysis of selected counseling interviews. The selection of the interviews for analysis was based on the fact that the subject's responses to certain test data described below indicated a significant and stressful relationship in which significant changes had occurred in the subject's relationship to his parents and counselor.

Since the method used in this study to select tapes for analysis was that of determining critical incidents in counseling, it would seem appropriate to discuss the critical incident method of sampling before discussing the specific instrumentation by which incidents were selected.

In a separate paper, Mueller (16) has discussed the critical incident method as a sampling technique for studying psychotherapy process. The selection of a process material to be analyzed is a critical problem in counseling research since the process is an extensive one and the material generated by length of counseling is overwhelming unless sampling techniques can be developed which provide the opportunity to generalize to the total process from small units of the behavioral interaction of the participants.

The critical incident method of sampling is based on dynamic considerations in sampling rather than such static ones as is the case with "time" sampling. The procedure proposed in that paper (16) and used in this study was a method of locating those critical incidents for study. It consisted in obtaining repeated behavioral measures of the subject at a series of points during counseling. Those behavioral measures provided the researcher with an opportunity for selecting interviews for study that occurred between significant changes in the measured variables. The abstracted critical incidents permitted an exhaustive analysis of criterion related process data since the method reduced the data to manageable size.

In this study, three criteria were established for the selection of a critical incident. Those three criteria were that (1) the subject was under stress during the interviews in question; (2) the events that the subject was reporting about previous intrafamilial behaviors were significant interactions; and (3) the relationship with the counselor was a significant relationship. These three criteria were established since the purpose of this study was to investigate the relationship of family learned behavior to behaviors with other significant persons.

Instruments

The semantic differential is now described fully since the subject's responses to it formed the operational basis for measuring the client's changing perceptions in order to meet the three criteria mentioned above for selecting interviews for analysis.

The semantic differential used in this study was prepared for use according to the procedures suggested by Osgood and Suci (21). The ordering of concepts, scales, and the polarity of the adjectival pairs was left to a random process. Twenty-one concepts were administered to each subject but for purposes of this study only four concepts - My Father, My Mother, Counselor, and Me were utilized (See Appendix A). The usefulness of the semantic differential in measuring changing behavior and studying personality characteristics of subjects has beenpreviously established by Mueller (14) and Mueller and Grater (19).

Two of those studies by Mueller and Grater (19,20) are worthy of consideration at this time since the results of those studies indicated that the semantic differential can be a valid index of personality conflicts and that the differential is not subject to large chance fluctuations in the tested conflict areas.

The semantic differential was described fully since the subjects' responses to it formed the basis for measuring the client's changing perceptions and for deriving the critical incidents in this study. A subject's responses to the semantic differential were studied in three ways: (1) the differential was used as a guide to the subject's changing state of anxiety; (2) it was used to derive an identification score so that changes in identification would insure selection of tapes in which the content was likely to include references to parent figures; and (3) it was used to determine the significance of the counseling relationship.

1. Criterion One - Determining that the situation is stressful.

The first criterion used to select critical incidents for analysis was that the subject be anxious. The results of a study by Mueller (14) cited earlier formed the basis for satisfying the first criterion that the subject be under stress. In that study, it was found that the anxiety level of (N=161) male and (N=141) female subjects was linked to their responses to three concepts of the semantic differential: Me, My Father, and My Mother.

The results of that study supported criterion-linked response bias in overall elevation and dispersion scores. Low anxious subjects' responses were more invariant and they described themselves and parents as more active, potent, and more positively than high anxious subjects.

Those data provided a normative reference group against which to compare the anxiety of the subjects in this study and thus to establish whether the subjects were under stress. For example, if the subject's pattern of responses coincided with the high anxious normative group, he was considered under stress at that time and the first criterion for selection of a critical incident was met.

Since the subjects in this study were administered the semantic differential after every fourth interview, it was possible to locate those interview groups where the subject's anxiety was peaked. The procedure used herein was to select the subject's responses as most satisfactory if they were at least one standard deviation above the mean of the high anxious criterion group, thus reducing the possibility of including false negatives in the sample.

In Figure 2 below, the method for determining that a subject is under stress and selecting interviews on this basis is exemplified. Since the high anxious norm group used the lower ends of the scales - the less positive poles - increases in anxiety are represented in Figure 2 by lower mean scores. It can be seen that the subject used as an example in Figure 2 achieved the highest peak in anxiety during the fifth testing time immediately following her sixteenth interview when her anxiety score was two standard deviations higher than the high-anxious group mean. It was decided in this case to select the four interviews (12-16) for analysis provided that the other criteria were satisfied in the same test time periods.

2. Criterion Two and Three - Determining the Relevance of the Content to Parent Relationships and the Significance of the Relationship with the Counselor.

An identification score and a score representing changing perceptions of his counselor was determined for each subject at each test time. The method used to develop these scores was to deviate each subject's pattern of responses to his self-concept from his response pattern for his description of his mother (Me - Mother), his father (Me - Father), and his counselor (Me - Counselor), and to compute a D-score for each difference at every test time.

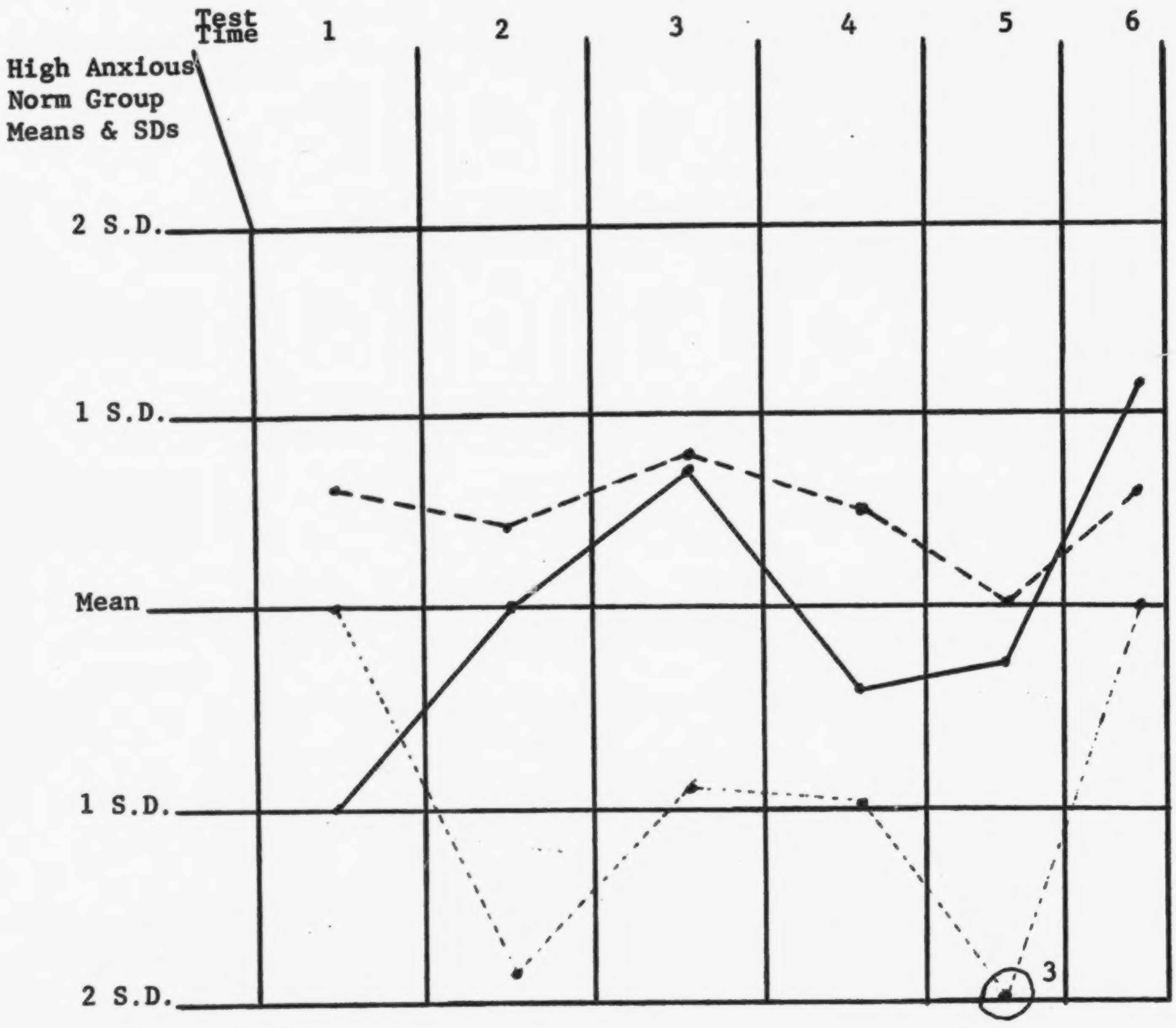
The study cited earlier by Mueller (14) supported the contention that the identification scores used herein as the additional criteria for selection of critical incidents were free of criterion linked effects of anxiety level. It was found, for example, that although a subject's overall responses to the semantic differential were influenced by his anxiety state, the D-score derivatives were impervious to such biasing factors. Since the second and third criteria for selection of tapes consisted of studying the significance of changes that occurred in the subject's identification scores and in the meaning that the concept Counselor had for the subject, this information regarding the bias free nature of D-scores was essential.

By using an error of measurement score derived from the control group study to be described below, the significance of change in these identification scores was determined. It was then possible to locate interviews in which significant changes occurred in how closely the subject patterned himself after parents and counselor. When such significant changes were found to occur, the second and third criteria for selection of tapes were considered met.

The method of analysis used to determine the identification scores and to study the subject's changing perception of his counselor

Figure 2

Meeting the First Criterion: Determining that a Subject is Under Stress by Graphing Anxiety Scores on Three Concepts (Me, My Father, My Mother)[1] in Relation to a Normative High-Anxious[2] Group.



[1] Concepts:
Me ————
My Father — — — — —
My Mother · · · · · · · · · · ·

[2] High scores represent lower anxiety since low anxious subjects used more positive evaluations on instrument.

[3] Subject's highest peak in anxiety reached between interviews 12-16.

was the "D" statistic described by Cronbach and Gleser (2). Simply stated, the statistic has the effect of permitting pattern analysis without loss of the overall differences in the pattern which occur when other correlational analysis is performed. This statistic is particularly appropriate and has been used extensively to measure "distance" in the meanings of concepts to subjects.

In this study, the D statistic was first used to determine the error of measurement for the relevant concepts. Errors in measurement were determined by studying the responses of a normative control group of (N=95) female and (N=86) male subjects to the same concepts used herein to study a subject's changing identification and his changing perception of his counselor. In the normative sample, each subject's responses to the concept Me were deviated scale by scale from his responses to the concept My Mother and My Father.

Similarly, his responses to the concept Counselor were deviated from his responses to Me. D-scores were then developed in the usual way by squaring and summing each scale difference and deriving the square root of the summed squared differences. A distribution of these D-scores was thus generated. An average D-score was determined and the variance of the mean established, thus yielding an error score for each concept pair. These error scores were then used to determine the significance of any changes that obtained in the sample of subjects in the counseling group.

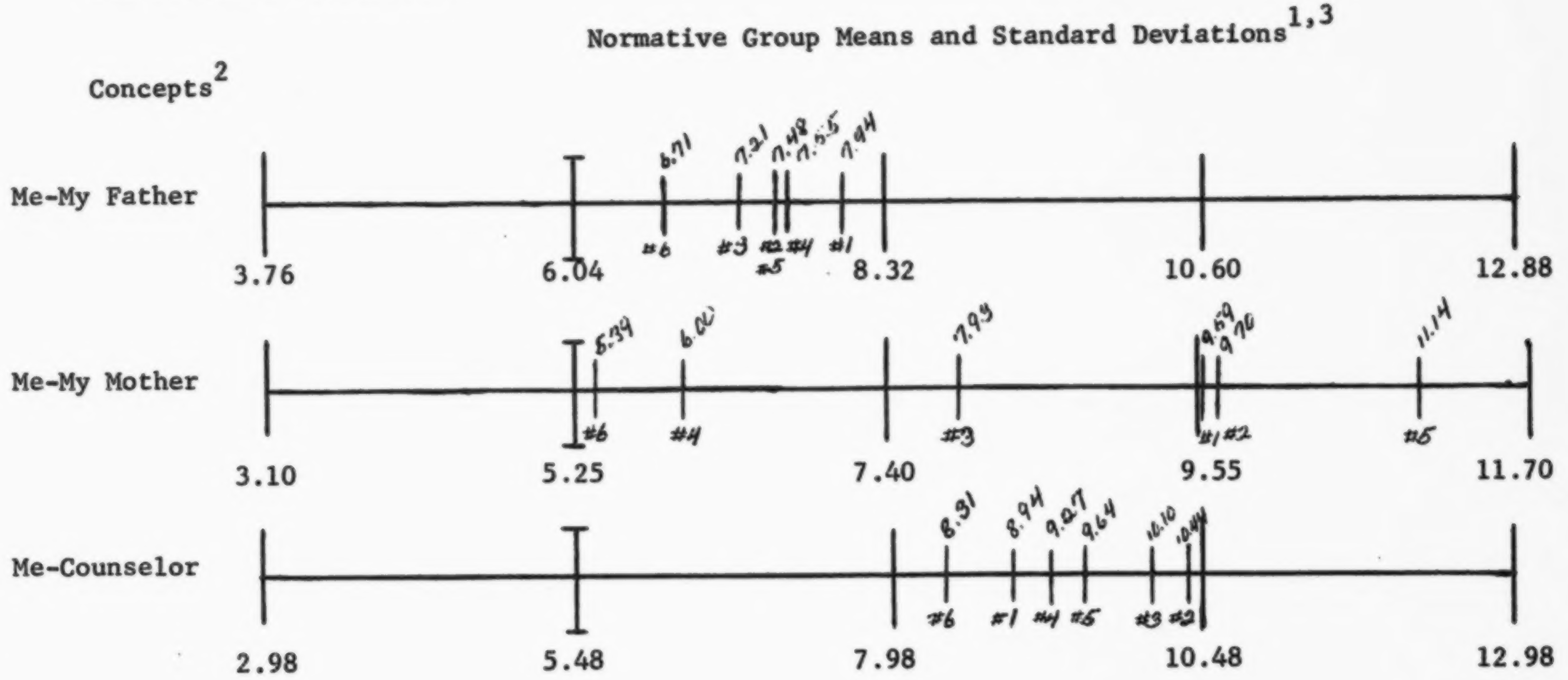
In Figure 3 below, the discrepancy scores are repeated for the same subject whose anxiety scores were presented in Figure 2. In Figure 3 it can be seen that the subject completed six testings and that for each testing a score was computed which represented the discrepancy between the self-concept and the concepts My Father, My Mother, and Counselor.

The baseline against which the discrepancy scores is plotted was derived from the no-counseling control group described earlier. It can be seen, for example, that the average discrepancy of the control group for the concept Me-My Mother was ($\bar{X}=5.25$) with a standard deviation of (S.D. = 2.15). At the time of first testing the subject received a D-score for these concepts of 9.59; the second testing four interviews later yielded a D-score of 9.70 which is a non-significant change. However, it can be seen that between the fourth and fifth testing a very significant ($p. \leq .01$) change occurred because the D-score changed more than two standard deviations (6.00 to $11.14 > 2$ S.D.). Since it can be recalled that the subject's anxiety between those testing times was also peaked (See Figure 1), those tapes were selected for analysis.

Whenever a conflict arose between significant changes in identification scores versus changing perception of the counselor, the rule of thumb used in selecting tapes was to select those tapes where anxiety was peaked and the parent concepts changed. The rationale for this procedure was based on the fact that the purpose in selecting critical

Figure 3

Meeting the Second and Third Criteria: Determining that a Subject's Identification Scores and Perception of Counselor have Changed Significantly in Relation to Normative Group Means and Standard Deviations.



[1] It can be seen that the normative group means and standard deviations vary from concept to concept. Each subject's discrepancy scores are computed separately for each concept in question.

[2] The subject's scores are recorded for each test time. This subject was tested (#) six times.

[3] Since this subject's scores did not occur in any area to the left of the mean, those standard deviations are not included.

incidents was to relate the parent interactions to the counselor-subject behavior and it was thought that this procedure would net the greatest amount of information about subject-parent behaviors.

Summary of Critical Incident Method of Tape Selection

The same procedure described above in Figures 1 and 2 was repeated for each of the (N=39) subjects in the study sample. The results of the tape selection process yielded four tape recorded sessions for each subject. The complete breakdown of the study subjects, number of interviews conducted, the actual interviews selected for analysis, and the professional level of the counselor are reported in Appendix B.

For purposes of this study, two additional procedures were followed with regard to selecting interviews for analysis. According to the method described thus far, four interviews were selected according to measured changes on selected concepts of a semantic differential. Once this pool of data were available, a randomly selected half of each tape was selected. It was decided to randomly select one-half of each tape rather than to study two complete tapes from the available four tapes since it was thought that such a procedure may have resulted in loss of information. The second additional procedure consisted of selecting the entire first interview tape from each subject for analysis along with those selected by the critical incident method. The first interview data were selected to provide a baseline of interactions between counselor and client before the relationship became significant.

In summary, a first interview and four half-tape later interviews were selected for analysis. The entire first interview was selected in order to evaluate changes in process when the relationship became significant and identification with parents changed. The later interviews were selected so as to represent critical incidents in the process of counseling. The method used to select critical incidents consisted of measuring significant changes on selected semantic differential variables. The variables selected for studying change were those related to the subject's perception of himself in relation to his parents and counselor. Significant changes in these variables were determined by comparing the subject's scores between testing times to the errors in measurement of a normative group. In addition, the anxiety of the subject was a necessary condition for the selection of tapes for analysis. High anxiety was determined by comparing a subject's anxiety level with that of known high-anxious response patterns.

B. Method of Tape Analysis

The method of tape analysis used in this study consisted of applying the interpersonal system of behavioral analysis developed by Freedman, Leary, Ossorio, and Coffey (5), later elaborated by LaForge, Leary, Naboisek, Coffey, and Freedman (10), by LaForge and

Suczek (11), and most comprehensively by Leary (12) and LaForge (9). This system of recording, quantifying, and analyzing interpersonal behaviors has been applied to empirical settings where the behavioral interactions of subjects have been studied in different settings (13,23,24,29).

According to the method, behaviors are described as interpersonally oriented responses which can be plotted around a circumplex and defined in terms of two major axes: a dominant-submissive axis and an affiliative-disaffiliative axis. The basic proposition of the system is that all responses can be plotted in terms of these two major axes and that these axes are sufficient to explain most interpersonal behavior. The circumplex serves to point up the relational aspects of human motives and provides sixteen interpersonal themes which can be described as reflexes or combined into octants or quadrants (5 ,10).

A key concept in the interpersonal method of analysis consists of examining the interpersonal behaviors of the two parties in interaction as attempts on the part of each person to establish an emotional state in the interaction which tends to elicit a predictable response from the other person. The task of the observer in judging the behaviors of the participants in such a dyadic relationship is one in which the judge always empathizes with "the individual whose behavior is being rated" from the position of the "object or objects of the activity" (5).

The circumplex used by the judges in recording the behaviors of the participants of the interaction is reproduced in Appendix D. That circumplex was initially presented by Freedman, et al (5) without the categorical headings recorded around the periphery. Those category labels and the intensity level circles emanating from the central axis were later incorporated into the revised circumplex by LaForge, et al (10), LaForge and Suczek (11), Leary (12), and LaForge (9). Many of the verbs and verb forms used in the circumplex by the judges in this study were presented by Freedman, et al (5). Additional verbs were added to the original ones during the pilot study (17) and preliminary work (18) which preceded this study.

The two judges selected to analyze the tape recorded material according to the system described above were advanced Ph.D. candidates in clinical psychology. One of the judges had previously judged research data using the system; the second judge was an intern at the Counseling Center and was familiar with interpersonal theories in counseling.

Instructions to Judges

1. Orientation to the Circumplex

The factor structure located by LaForge (11) was used as a general guide to the judges in this study in attempting to define the emotional states being established by either party of the interaction. With regard to the circumplex categories some adjustment was necessary to apply LaForge's results to studying interview judgments. Since the nodal points of the axes cut across reflex categories, the factor structure was figuratively rotated so that the I-J and B-A behaviors were given disaffiliative-affiliative valences respectively, and the N-M and E-F categories were interpreted as dominant-submissive categories respectively.

In rating behaviors, the judges were instructed to decide first whether a given behavior had a dominant or submissive quality to it and they then studied the affiliative or disaffiliative character of the behavior. These decisions permitted plotting the behavior in the appropriate quadrant from which a more specific decision was reached about the proximity of the behavior with regard to one or the other of the intersecting axes. This orienting procedure was determined in the preliminary work which preceded this study and is described fully elsewhere (18).

2. Scoring the Behaviors: The Manual

In preliminary training sessions, the two judges were oriented to the circumplex, troublesome reflexes were clarified for them, and the method of recording multiple behaviors was described. These procedures were developed earlier and are described in detail elsewhere (18). In addition, a manual was prepared for the judges which described the specific methods they were to use in scoring tapes. A facsimile of this manual is included as Appendix C of this report.

It would seem appropriate to cite the main features of the manual used by judges in scoring tapes. The manual defined the scoring unit as an uninterrupted speech of the client or counselor. Comments which simply lubricated the client but which did not affect the feeling state were not considered interruptions. Comments by the client, however, which lubricated the counselor were scored according to their intent.

Within any given unit, the dominant feeling being expressed was scored according to the emotional state the speaker was attempting to establish. Shifts in feeling within a unit were scored as mechanisms and ordered sequentially as they occurred in the scoring unit. If two feeling states were bound together, of equal strength, and not sequentially separable, they were scored with a slash separating them.

The same units were then scored a second time. The second scoring consisted of scoring the content of the client's described interactions with all other persons than the counselor. The purpose of this procedure was to permit location of the Client-Other interaction during the counseling process. To identify the "actor" and "target" (1) of the interaction, the judge named the actor, recorded the mechanism, and then circled the target of the mechanism, as follows:

(e.g. The client says that he takes care of his mother.)

	Actor	Mechanism	Target
Unit #	[✓ Ce] F M B S P_m P_f	N	Ce F [✓ M] B S P_m Pf

This particular procedure for recording the mechanisms was suggested by the work of MacKenzie (13). The scoring system also provided the opportunity to differentiate multiple targets, to record sequential feelings toward targets, and to keep sequence of events in order. The scoring system also provided the opportunity to differentiate among a large group of "others". The potential targets and actors were: client, father, mother, brother, sister, male peer, female peer, grandparents, and teachers (see manual, Appendix C).

Selecting the Pool of Reliability Tapes

C. Reliability

Reliability was established in the following way. It can be recalled that for each of the (N=39) study subjects, a first interview was selected for analysis as well as four half-tapes of later interviews. This provided a pool of 117 interview equivalents. Reliability was established by selecting twenty-five percent of the sample of tapes which were then judged by both raters. Selection of tapes for reliability was determined on the following basis.

The first pool of reliability tapes consisted of both judges' scoring a half-interview segment of all first interview tapes. Sampling here was done on a stratified basis so that the pool of reliability tapes consisted of an equal number of first and second half tapes. Within the stratification, the determination of which half tape was to be judged was left to a random process for each of the four groups of subjects (male versus female client with male versus female counselor). It was felt that the first pool of reliability tapes ought to include all first interview data so that both judges had equal knowledge of the subject's presenting problems and range of emotional interactions. This procedure yielded (N=39) reliability tapes or (N=19.5) interview equivalents.

An additional pool of reliability tapes was selected from each subject's later interviews as follows. All tapes within each of the four groups of subjects were pooled and a proportional sample of tapes was selected by the same stratification and randomization within strata process described above. The second pool of reliability tapes then were selected from among the later interviews and consisted of (N=18) reliability segments or (N=9) interview equivalents. When this pool is added to the pool of first interview data, it can be seen that the total pool of reliability tapes consisted of (N=57) half-interview segments or (N=28.5) interview equivalents; that is, 24.3% of the research sample.

Determining the Inter-Rater Reliability

Elsewhere, Mueller (15) and Mueller and Dilling (18) have described some of the general and specific considerations regarding determining reliability of circumplex data. Some of the more salient points made there are that the type of reliability coefficient used in the study ought to be consistent with the research hypotheses and study questions. Reliability based on a proportional analysis of the data provides an opportunity to test overall differences between the participants of interaction, but an item-statistic is essential for testing the interaction effects of the behaviors.

In addition, it was pointed out that an item-statistic is a more general case and provides the researcher with more flexibility in testing his hypotheses. Accordingly, the item-statistic was utilized as the method of determining inter-judge agreement in this study. The item-statistic has been reported in several ways by other researchers (3 ,29). The second position taken in Mueller's (15) paper was that the item-statistic ought to be reported for each level of discrepancy between judges on a pair of judgments so that the reader can determine the distribution of judging "hits".

Reporting the data at each new discrepancy level as the band of judging "hits" is widened around the periphery of the circumplex provides the basic data for computing Dittmann's $\bar{R}$. The advantage of Dittmann's $\bar{R}$ is that it carries with it a $\underline{t}$ test which permits testing the significance of the agreement scores.

Based on the arguments stated above, the reliability data are presented in this study for the percentage agreement between judges at each level of discrepancy around the periphery of the circumplex. In addition, Dittmann's $\bar{R}$ is computed for the summary data. This procedure is followed in reporting the data in Table 1.

In Table 1, the results of computing the inter-judge percentage agreement scores for the client-counselor interaction and for client-other interactions are reported. The format of the table is as follows. Along the left hand margin are reported the inter-rater discrepancy levels for the subjects at each level of agreement from perfect agreement (O-D) through bi-polarity of judgments (8-D). Next the reflexes which were judged at each level are reported along with the total number of reflexes judged.

The actual percentage agreement at each level and the cumulative inter-judge percentage agreement scores are then reported. Finally, using the reflex agreement at each discrepancy level as the multipliers, Dittmann's δ is reported in the next column of the table. The average of these summed discrepancies is then applied to Dittmann's formula:

$$\bar{R} = 1 - \frac{\sum_{i=1}^{n} \delta / n}{4}$$

and the resultant $\bar{R}$ is tested against a $\underline{t}$ distribution by applying the formula:

$$\underline{t} = 1.706\, \bar{R} \sqrt{n} \quad \text{(see Dittman, 3).}$$

Table 1

Percentage Agreement Scores, Dittmann's $\bar{R}^1$, and t Tests[2] Reported for Client-Counselor and Client-Other Interactions for (N=39) Subjects Based on (N=57) Half-Tape Reliability Segments

Counselor-Client Reflexes in (N=57) Reliability Segments

Agreement Discrepancy	Units Agree.	Percent Agree.	Cum. Percent	Dittmann's δ	$\bar{R}^1$, t[2]
0-D	3443	.494	.494		$\bar{R}$ = .64;
1-D	1376	.197	.197	1375	t = 90.71*
2-D	488	.070	.761	976	
3-D	423	.061	.822	1269	
4-D	530	.076	.898	2120	
5-D	206	.029	.927	1030	
6-D	337	.048	.975	2022	
7-D	98	.014	.989	686	
8-D	82	.012	1.001	656	
Total	6974		Sum (δ)	10135	

Client-Other Reflexes in (N=54)[3] Reliability Segments

0-D	677	.583	.583	0	$\bar{R}$ = 73;
1-D	183	.158	.741	183	t=42.43*
2-D	90	.078	.819	180	
3-D	94	.081	.900	282	
4-D	43	.037	.937	172	
5-D	34	.029	.966	170	
6-D	18	.016	.982	108	
7-D	11	.009	.991	77	
8-D	11	.009	1.000	88	
Total	1161		Sum (δ)	1260	

[1] For a 16 variable circumplex, Dittmann's $\bar{R} = 1 - \frac{\sum_{i=1}^{n} \delta / n}{.4}$ and

[2] $t = 1.706 \, \bar{R} \sqrt{n}$.

[3] Three subjects' tapes were not included since there were no client-other reflexes in the reliability segments.

*For 6974 df, p. $\leq$ .00001.

*For 1161 df, p. $\leq$ .00001.

The data in the upper half of Table 1 refer to the agreement scores between judges when they rated the counselor-client interactions. In the lower half of the table, the data reflect the percentage agreement that the judges achieved in rating the client's interaction with others. It can be seen that the judgments for the client-other interactions were based on a sample of (N=54) reliability segments. The remaining three designated segments contained no references to such interactions.

In the upper half of the table, the data regarding the percentage agreement between judges in rating the counselor-subject interactions is reported. It can be seen there that (N=6974) interpersonal reflexes were rated. Of that sample of responses, the judges achieved perfect agreement in 49% of the sample and obtained a 69% agreement when the limits for judging agreement were broadened so that acceptable agreement was construed as meaning that a judging "hit" occurred if the reliability judge scored within one category of the criterion judge's rating. The remaining percentage agreement scores can be interpreted in the same way so that an (8-D) score means that the second judge gave a bi-polar rating to the behavior.

Using the agreement discrepancy scores (0-D to 8-D) as multipliers, Dittmann's $\bar{R}$ and *t* test were computed according to the formula described above. For (N=6974)judgments, the resultant $\bar{R}$ = .64 was obtained which for this sample size of ratings yields a *t* = 90.71. This value is a very improbable chance event. The ratings of counselor-client interactions were therefore considered acceptable to test those hypotheses based on such interactions.

In the reliability data regarding the client-other interactions, it can be seen that (N=1161) reflexes were judged. Of this sample, the judges achieved perfect agreement in 58% of the cases and obtained 74% agreement when the limits for what constituted agreement were widened to include judging agreement if the second judge scored the reflex within one category on either side of the criterion judge's rating. The remainder of the percentage agreement and cumulative agreement percentages can be interpreted in the same way.

When this information about the percentage of agreements at each step as the limited were widened was applied to Dittman's formula for computing the correlation between judges, and $\bar{R}$ = .73 was obtained, which, for (N=1161) judgments yields a *t* = 42.43. Based on the probability of such events being chance events, the results indicate that the judges achieved a very significant amount of agreement in their ratings and the data were considered suitable for continued analysis and hypothesis testing.

Since the reliability data indicate that the ratings represent the subject's "true" responses, the data were prepared for analysis to test the study hypotheses for interactions involving subject with counselor and with others. In the following part of this *Methods* section, the procedure by which the hypotheses were operationalized and the data prepared for testing the study propositions is reported.

D. Preparation of Data to Test the Study Hypotheses

The study hypotheses were divided into three classes of questions. The first two lines of inquiry were investigations about pattern similarity in different dyadic interactions and under different conditions. The dyads consisted of the subject in interaction with counselor, significant others, and parents. The conditions consisted of studying differences in similarity during early and later encounters with the counselor, others, and parents.

The third line of inquiry purported to investigate the predictability of response patterns between participants in different dyadic interactions. The dyads consisted of the reciprocal behavioral interactions between subject and counselor, subject and significant others, and subject and parents.

General Method for Preparing Data to Test First Two Lines of Inquiry

All of the hypotheses formulated within the first two lines of inquiry with one exception were based on the same statistical procedures. The hypotheses were operationally defined in terms of whether the interaction pattern in the two sets of dyads is a non-random set of events. The D-statistic (2) is the measure of pattern similarity used herein and is derived in the following way.

The proportion of responses in each of the sixteen categories of the circumplex that the subject "sends" to the counselor are deviated scale by scale from the proportion of responses that the subject "sends" in other relevant dyads (e.g., subject to parents). Following Cronbach and Gleser (2), each scale by scale deviation between the sixteen variables in a dyad is squared and summed across all variables and the square root of the summed, squared differences is derived.

This procedure yields D-scores for all relevant dyadic patterns to be used in answering questions related to the first two lines of inquiry: subject-counselor, subject-other, and subject-parents. Since the data provide the opportunity to study early and later interactions within each of these dyadic interactions, it is also possible to study D-score differences among these three dyads between first and later interview data.

Finally, by summing across the responses of all subjects in each type of interaction a generalized responsivity to "others", to parents, and to counselors can be obtained. The proportion of responses in each of the sixteen categories from this summation process is used herein as a definition of non-specific or random responsivity.

First and second line of inquiry:

Each of the hypotheses formulated within the first line of inquiry is restated here and operationally defined. To exemplify the procedure, symbols used in the operational definition of the first hypothesis are verbally defined. The same meaning can be attached to the symbols in the remaining hypotheses. Since the method of testing the significance of differences in patterns is identical in all of these cases, it is stated following the last hypothesis.

H: While under stress and during significant interaction with a counselor, a subject's behavior will replicate the behaviors of other significant encounters.

Subject-Counselor and Subject-Other Pattern Similarity

H_1: There is no difference in the pattern of behavior of the subject toward his counselor than in the pattern of behavior toward others.

H_1: $$Ce_{1+2} \longrightarrow Co_{1+2} = Ce_{1+2} \longrightarrow O$$

$$DCe \longrightarrow Co_{1+2} - Ce \longrightarrow O_{1+2} \nless DCe \longrightarrow Co_{1+2} - Ce \longrightarrow O_g$$

The symbols used in the operational definition of the first hypothesis are as follows.

$$Ce_{1+2} \longrightarrow Co_{1+2} = Ce_{1+2} \longrightarrow O$$

The proportion of responses in each of the sixteen categories that the client (Ce) sent to the counselor (Co) in early and late interviews combined (1+2) is the same as the response pattern that the client sent to all significant others -- parents, peers, teachers, relatives (O).

$$DCe \longrightarrow Co_{1+2} - Ce \quad O_{1+2} \nless DCe \longrightarrow Co_{1+2} - Ce \longrightarrow O_g$$

When the behavioral pattern between the responses sent to the counselor ($Ce \longrightarrow Co_{1+2}$) are deviated (-) from the behavioral pattern sent to all others $(Ce \longrightarrow O)1+2$, this D-Score (D) is less than ($<$) the deviation between the behavior that the client sent to the counselor and the generalized response of clients to others (O_g). That is, the pattern similarity between the client-counselor and client-other behaviors is a non-chance event.

H_{1a}: There is no difference in the pattern of behavior of the subject toward his counselor than in the pattern of behavior toward others in early interactions.

H_{1a}: $Ce_1 \longrightarrow Co_1 = Ce_1 \longrightarrow O_1$

$DCeCo_1 - CeO_1 \gtrless DCeCo_1 - CeO_g$

H_{1b}: There is no difference in the pattern of behaviors of the subject toward his counselor than in the pattern of behavior toward others in later interactions.

H_{1b}: $Ce_2 \longrightarrow Co_2 = Ce_2 \longrightarrow O_2$

$DCeCo_2 - CeO_2 \gtrless DC_eCo_2 - CeO_g$

H_{1c}: There is no difference in the pattern of behaviors of the subject toward the counselor in later interactions than in the pattern of behavior toward others regardless of when material was recalled.

H_{1c}: $Ce_2 \longrightarrow Co_2 = Ce_{1+2} \longrightarrow O_{1+2}$

$DCeCo_2 - CeO_{1+2} \gtrless DCeCo_2 - CeO_g$

Subject-Counselor and Subject-Parent Pattern Similarity

H_2: There is no difference in the pattern of behavior of the subject toward his counselor than in the pattern of his behavior toward his parents.

H_2: $Ce_{1+2} \longrightarrow Co = Ce_{1+2} \longrightarrow FM$

$DCeCo_{1+2} \longrightarrow CeFM \gtrless DCeCo_{1+2} \longrightarrow CeO_g$

H_{2a}: There is no difference in the pattern of behavior of the subject toward his counselor in earlier interviews than in the pattern of his behavior toward his parents.

H_{2a}: $Ce_2 \longrightarrow Co_2 = Ce \longrightarrow FM$

$DCeCo_1 \longrightarrow CeFM \gtrless DCeCo_1 \longrightarrow CeO_g$

$H2_b$: There is no difference in the pattern of behavior of the subject toward his counselor in later interviews than in the pattern of his behavior toward his parents.

$$H_{2b}: \quad Ce_2 \longrightarrow Co_2 \quad = \quad Ce \longrightarrow FM$$

$$DCeCo_2 \longrightarrow CeFM \gtrless DCeCo_2 \longrightarrow CeO_g$$

Subject-Counselor and Subject-Other Pattern Changes

H_3: There is an increasing amount of similarity in patterns of behavior of the subject toward his counselor as compared to previous interactions with others.

$$H_3: \quad DCe_2Co_2 \; - \; CeO_{1+2} \gtrless DCe_1Co_1 \; - \; CeO_{1+2}$$

Subject-Counselor and Subject-Parent Pattern Changes

H_4: There is an increasing amount of similarity in patterns of behavior of the subject toward his counselor as compared to previous interactions with parents.

$$H_4: \quad DCeCo_2 \; - \; CeFM < DCeCo_1 \; - \; CeFM$$

Third line of inquiry:

The third line of inquiry consisted of questions about the predictability of response patterns during interactions. These questions were grouped into three sets of hypotheses: subject-counselor interactions; subject-other interactions; and subject-parent interactions.

The method used to investigate these questions consisted of determining the proportion of responses sent by a participant in interaction for each quadrant and octant of the circumplex. These proportions were then rank order correlated, using the Spearman Rank Order correlation coefficient as the regression index.

It should be pointed out that the correlation coefficients are based on a sample of (N=39) subjects for comparison of the reciprocal behavioral interactions between subjects and counselors, whereas the sample size of interactions with parents and others is based on a sample of (N=36) subjects since the remaining three subjects reported no parent-other interactions during initial or later interviews.

H: While under stress and in interaction with significant persons, subjects will elicit predictable responses by their behaviors.

H_5: Subjects in interaction with counselors will elicit predictable counter-behaviors from their counselors.

H_{5a}: Subjects in interaction with counselors during first interviews will elicit predictable counter-behaviors from their counselors.

H_{5b}: Subjects in interaction with counselors during later interviews will elicit predictable counter-behaviors from their counselors.

Based on the previous research of Mueller and Dilling (17) regarding therapy relationship, the following specific predictions were made regarding the correlation coefficients between client-counselor interactions:

1. Hostile-competitive (BCDE) subject behavior will elicit counter-hostility and competition, passive resistance (FGHI) but no nurturant help-giving (NOPA) behavior.
2. Hostile-competitive (BCDE) subject behavior will tend to be negatively correlated with help-giving (NOPA) behaviors.

$$+\rho\ Ce_{BCDE} \cdot Co_{BCDE}$$

$$+\rho\ Ce_{BCDE} \cdot Co_{FGHI}$$

$$-\rho\ Ce_{BCDE} \cdot Co_{NOPA}$$

3. Help-seeking, cooperative (JKLM) subject behavior will elicit nurturant-teaching behavior (NOPA) from counselors.

$$+\rho\ Ce_{JKLM} \cdot Co_{NOPA}$$

H_{5c}: The interaction of subjects with counselors in later interviews will reflect the latent effects of earlier counselor responses.

H_{5c}: $\rho\ Ce_2 \quad Co_2 \cdot Co_1 \quad Ce_1$

H_{5d}: Counselors responses in later interviews will reflect the latent effects of earlier client elicitations.

H_{5d}: $\rho Ce_1 \quad Co_1 \quad . \quad Co_2 \quad Ce_2$

H_6: The self-reported interactions of subjects with others will elicit predictable counter-behaviors from others.

H_{6a}: The self-reported interactions of subjects with others during early interviews will elicit predictable counter-behaviors from others.

H_{6b}: The self-reported interactions of subjects with others during later interviews will elicit predictable counter-behaviors from others.

H_7: The self-reported interactions of subjects with parents will elicit predictable counter-behaviors from parents.

The previous empirical work of Leary (12) and Shannon (26) suggests that the following relationships obtain in the interactions between subjects:

1. Helpless, trustful behavior tends to pull assistance and leadership - JK provokes AP and NO (12, p. 293):
2. Competitive, self-enhancing behavior pulls distrust and feelings of inferiority - BC provokes GHIJ (12, p. 334):
3. Bitter rebellious behavior pulls primitive rejection and superiority - FG provokes BCD (12, p. 272):
4. Self-effacement pulls depreciation and superiority - HI pulls BC and DE (12, p. 284):
5. Friendly agreeability pulls approval and friendliness - LM pulls MN (12, p. 305):
6. Responsible, protective behavior provokes dependence and respect - NO pulls KL (12, p. 317):
7. Power and control provoke obedience, deference, and respect from others - AP pulls IJ (12, p. 325):
8. Sadistic-critical behavior pulls resentment, distrust, fear, and guilt - DE provokes FGH (12, p. 343).

It can be seen that Leary's formulations are based on combining reflexes so as to cut across octants and quadrants. Since the data regarding reciprocal behaviors were analyzed at the quadrant level in this study, it was decided to test the reciprocity principle as exploratory hypotheses and to use two-tailed tests in the resultant correlation matrix.

The significance levels for the pattern similarity hypotheses (Inquiry I and II) were tested against observed values of a *z* distribution based on the Wilcoxon Matched-Pairs Signed-Ranks Test (see Siegel, 27). The tests of significance for the reciprocal behavior hypotheses (Inquiry III) were determined by computing Spearman Rank Order correlation coefficients.

Summary

In this section, the procedures used to gather data and methods of preparing the data for analysis were presented. The study hypotheses were operationally defined and the tests of significance were described. In the following section, the results of the analyses are presented and the findings are interpreted.

Results

The results section of this report is divided into four parts. The first section consists of a preliminary descriptive report of the general response tendencies of the study subjects in different dyadic interactions and under varied conditions within each dyad. The remaining three sub-divisions are based on an analysis of the data to test the hypotheses formulated within each of the three areas of inquiry. A discussion of the results of these analyses is reserved for the next section.

I. General Response Patterns of Subjects

The behaviors of the subjects were grouped into three types of dyadic interaction patterns: subjects with counselors; subjects with other significant persons; and subjects with parents. In this study, the subject-other dyads included the subject's reported interactions with his parents, siblings, other relatives, teachers, and peers. Since the investigator was specifically interested in comparing interactions within the family constellation with the subject's interaction with his counselor, the subject's reported interactions with his parents were abstracted from the remaining subject-other dyads and reported separately.

In addition to studying differences in the subject's dyadic interactions, the purpose of the second line of inquiry was to investigate the effects of changes in conditions on the subject's behavior patterns. The conditions consisted of studying changes in the subject's interactions with his counselor and changes in his report of interactions with parents and others during initial and later interviews. Since the later interview data were selected on the basis of heightened anxiety and changes in the subject's perceptions of his relationship to his parents, it was thought that these interactions may reflect increasing similarity in the interactions of the subject with his counselor and with his parents.

Composition of the Figures

Comparisons of the subject's response patterns in each dyadic interaction and during initial and later interviews are presented below in Figures 4 through Figure 9 and in an additional set of figures (Figure A through Figure J) presented in Appendix E. The composition of all of the figures is similar. The distribution of percentages of interpersonal reflexes "sent" by the subjects is compared (1) to those "received" by subjects in the same dyad; (2) to those sent by subjects in other interactions; or (3) to those sent under conditions of early and later interviews.

The number of reflexes "sent" and "received" is identical for the subject-counselor dyadic interaction, but in interactions between the subject and parents or others, the number of reflexes sent and received may differ substantially since, for example, a parent may not "answer" the subject or the parent may address his response to a person other than the subject.

Along the left hand side of each figure, percentages are recorded which refer to the proportion of each of the sixteen reflexes that were sent under the conditions and dyads studied. At the base of each figure, the letters "B" through "A" designate the category of behavior that was sent. This lettering system is based on the sixteen interpersonal reflexes of the circumplex (see Appendix C) and is used consistently throughout this study.

The categories of the circumplex have somewhat different verbal descriptions depending upon the respondent, but the emotional intention of the respondent is the basis for the category designation. With that in mind, the following category designations were made for purposes of abbreviation in reporting data: B = to boast; C = to compete; D = to threaten; E = to attack; F = to resist passively; G = to distrust; H = to withdraw; I = to defer; J = to admire; K = to depend; L = to cooperate; M = to identify with; N = to support; O = to interpret; P = to inform; and A = to dominate.

The categories are listed along the baseline of each figure so that contiguous categories can be easily combined into octants or quadrants. Continuing along the baseline from left to right is equivalent to a counter-clockwise movement around the circumplex. By combining two adjacent categories in a counter-clockwise manner beginning with categories B and C, data are provided for an octant interpretation of the circumplex. Further combination of data, again in a counter-clockwise fashion (BCDE), yields data for a quadrant analysis. With this general information, the data in the figures can be interpreted.

A. Interaction Patterns

1. Subject-Counselor Interactions

In Figure 4, it can be seen that the (N=39) subjects sent a total of (N=10,989) reflexes to counselors during the (N=117) early and later interviews rated for this study. The legend used to indicate the distribution of reflexes sent to the counselors is a continuous line and the counselor's reactions to the subject's elicitations are designated with a broken line.

The subjects' most used reflex sent to counselors was a cooperative (L) one. Secondly, the subjects seemed to oscillate between dominant-informing (P), boastful attitudes (B), submissive-withdrawing (H), and passively resistant (F) roles with their counselors.

Figure 4

Distribution of Percentages of (N=10,989) Interpersonal Reflexes Sent by (N=39) Subjects to Counselors and Received from Counselors During First and Later Interviews

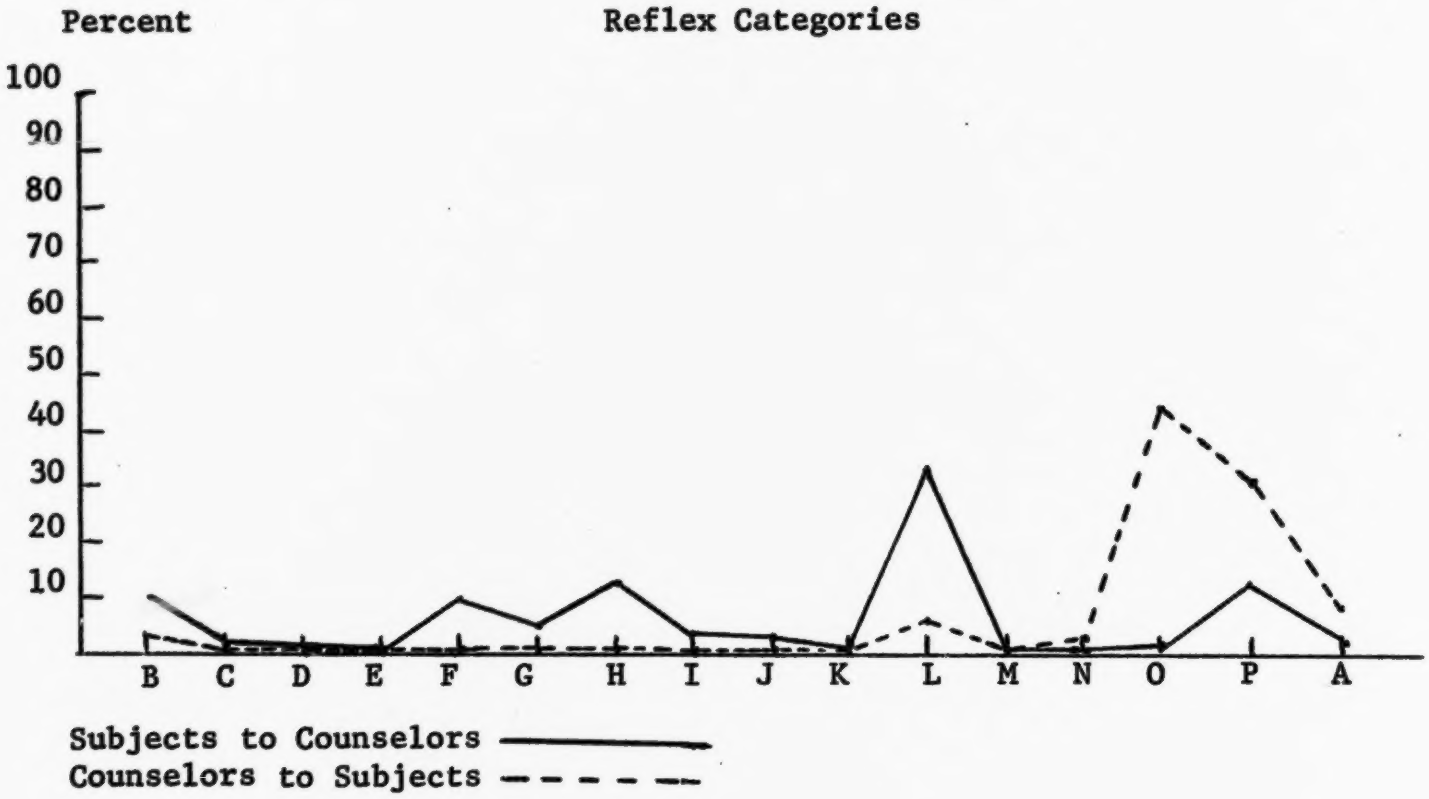


Figure 5

Distribution of Percentages of Interpersonal Reflexes Sent by (N=39) Subjects to All Others(N=1799) and Received from Others(N=1374) During First and Later Interviews

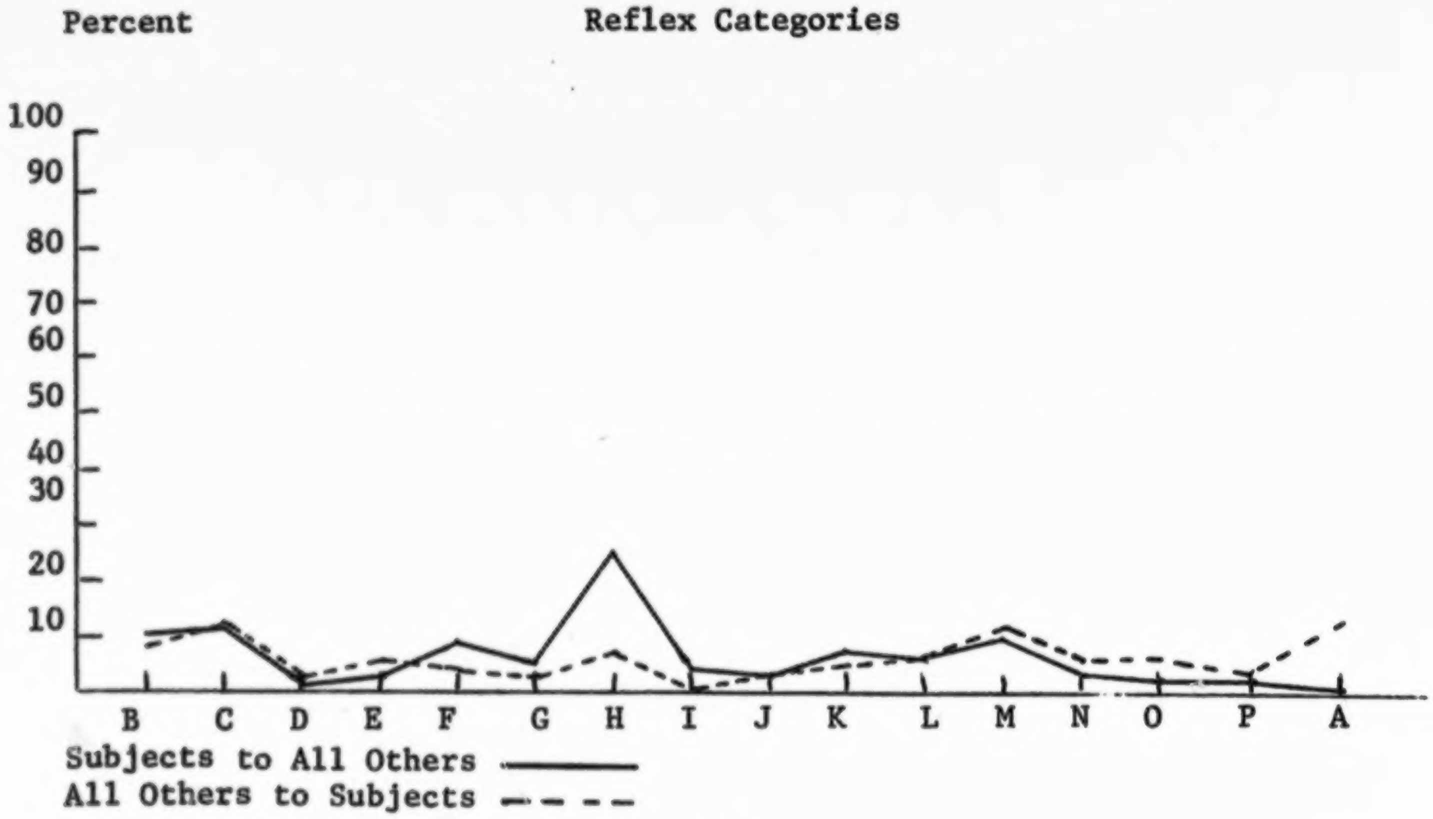


Figure 6

Distribution of Percentages of (N=10,989) Interpersonal Reflexes Sent to Counselors Compared to (N=1799) Reflexes Sent to Others During First and Later Interviews

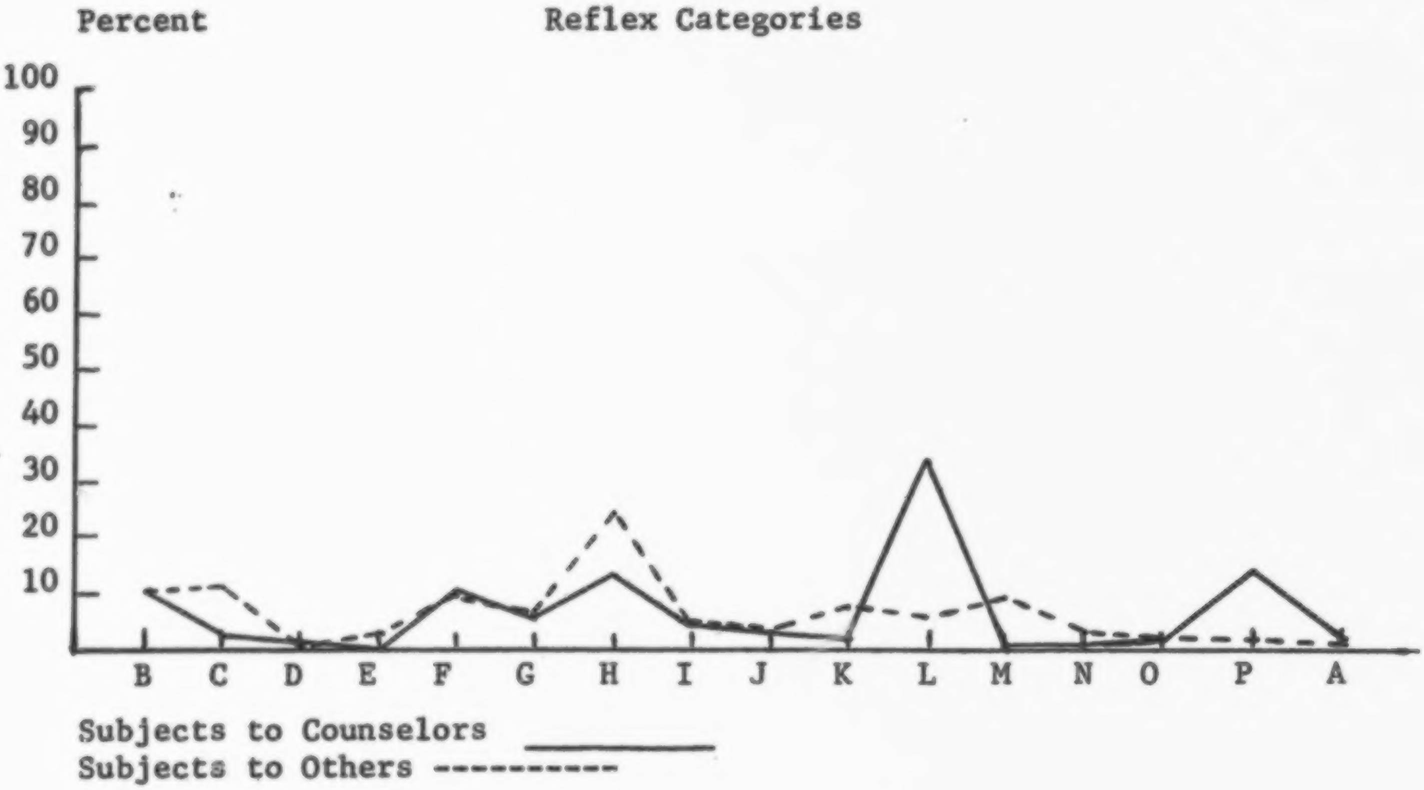


Figure 7

Distribution of Percentages of Interpersonal Reflexes Sent by (N=39) Subjects to Counselors During First (N=3866) and Later (N=7123) Interviews as Compared to Percentages of Reflexes Sent by Subjects to All Others During First (N=899) and Later (N=900) Interviews

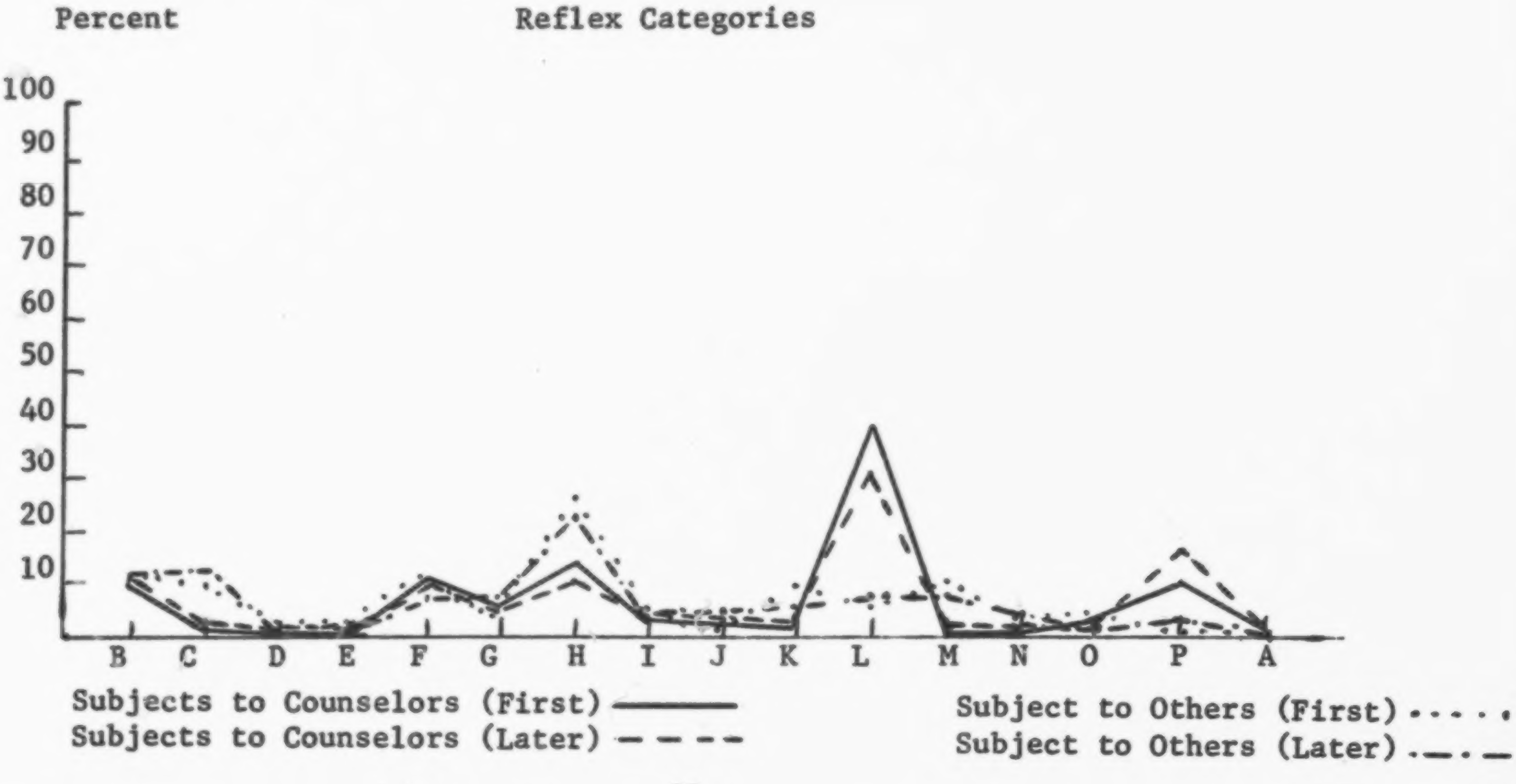


Figure 8

Distribution of Percentages of (N=880) Interpersonal Reflexes Sent by (N=39) Subjects to Parents and (N=789) Reflexes Received From Parents During First and Later Interviews

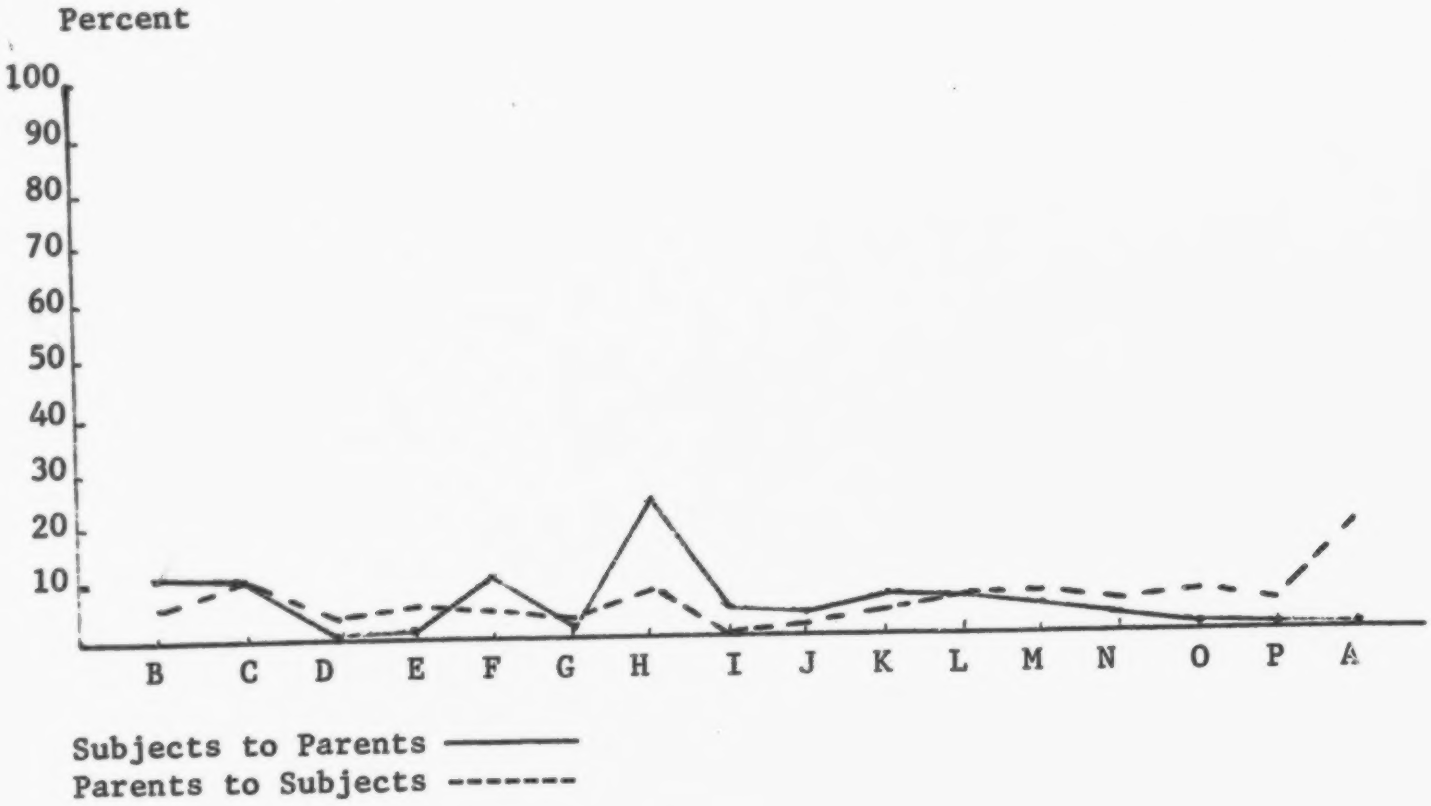
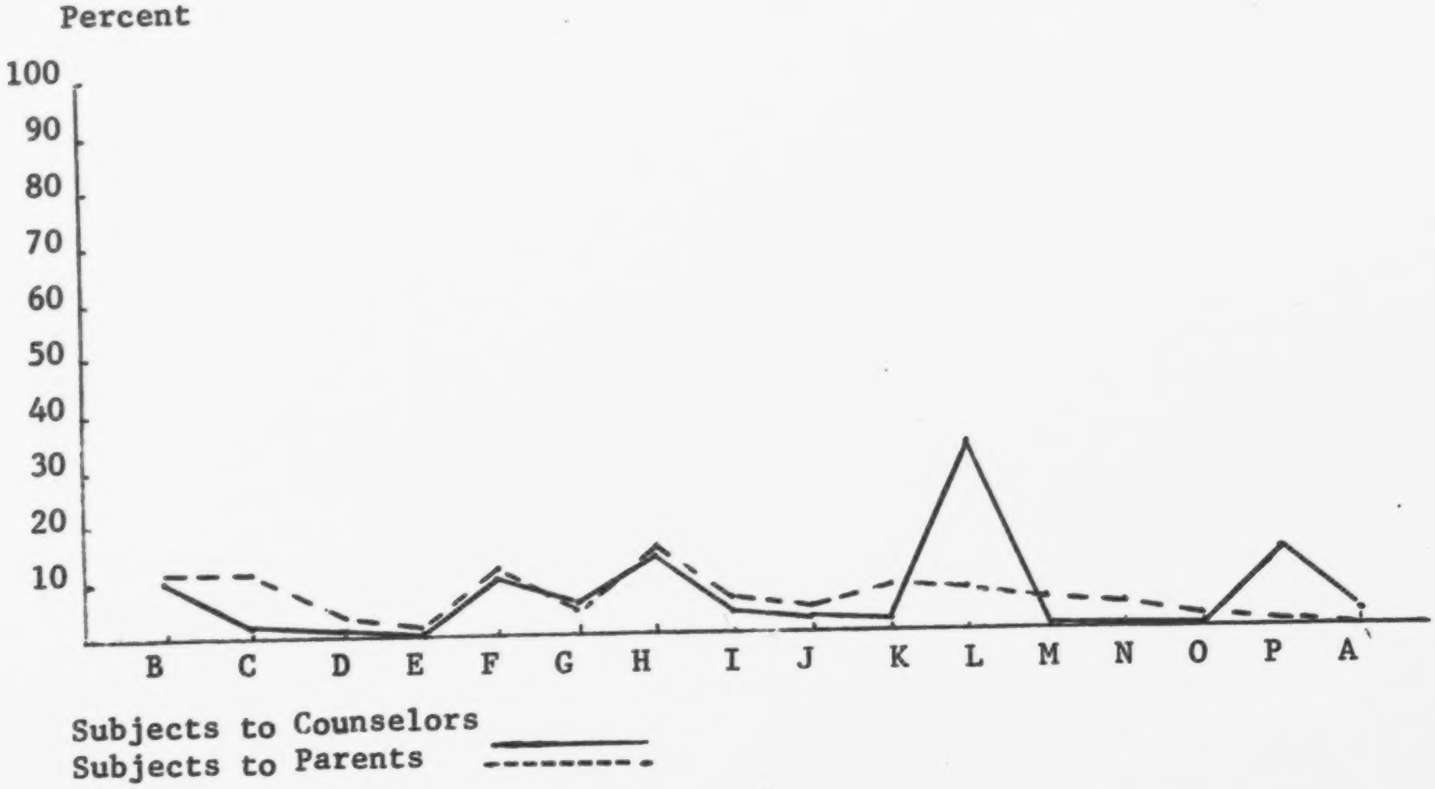


Figure 9

Distribution of Percentages of (N=880) Interpersonal Reflexes Sent by (N=39) Subjects to Parents and (N=10,989) Reflexes Sent by Subjects to Counselors in First and Later Interviews



The counselors' responses to the subjects' behaviors were most often characterized by interpretive (O), teaching (P), and dominant (A) behavior. In other words, the counselors were generally dominant and affiliative (NOPA) in their reactions to the subjects even though the subjects expressed a wider range of stimulus behaviors. These overall response patterns of subjects and counselors are in accord with what one would expect during counseling interactions. Generally, a counselor maintains a dominant but affiliative posture in relation to the client. Under such conditions, the client has the opportunity to express a wide range of affect. And oscillation between extremes of cooperation and resistance characterizes many counseling relationships as the client ambivalently approaches and retreats from his anxiety.

2. Subject-Other Interactions

In their interactions with significant other persons (Figure 5) the subjects were less cooperative (L), more self-depreciating (H), submissive (I), and distrustful (G) than they were with their counselors. The reactions of other persons to the subjects reflected the pattern that was "sent" to them by the subjects except that the responses by others were less submissive (H and I) and more dominating (A) than those of the subjects.

3. Subject-Parent Interactions

The general interaction pattern between subjects and parents (Figure 8) differs from the subject's responsivity to all others in that there is less distrust (G) on the part of the subject toward his parents than toward others. But more distrust is projected onto parents by subjects than they themselves report in their behavior toward their parents.

The subjects also report interactions in which they are more boastful (B) with their parents than their parents are in return. They describe their parents as more dominating (A) toward them which may tend to evoke the withdrawal responses (H) reported by them.

It must be remembered that the data graphed in these figures represent the overall response patterns of subjects in the different dyadic interactions; so it is not possible from these data to infer which specific behaviors elicited counter behaviors. However, the high incidence of some behaviors within any dyadic interaction would seem to support the inference that on the average these behaviors evoked the dense response patterns in certain reflex areas. The statistical evidence for confirming or refuting this inference is presented later in the test of hypotheses regarding the third line of inquiry.

With that limitation in mind, it is interesting to note that the overall predictability of responsivity seems to vary with the situation.

In interaction with others, on the average the subject's behaviors seem to elicit the counter-behaviors that were postulated by Leary (12). That is, dominant behavior tends to pull submissiveness and hostility elicits counter-hostility. This same interpretation seems to be supported in parent-subject dyads. However, the data from the subject-counselor interactions do not seem to reflect this lawfulness.

In general, the subjects' reflexes toward their counselors during later interviews reflect more dominant and less submissive behavior than was characteristic of early interviews. This finding is not a surprising shift in reflex activity since a client's self-assertiveness is generally activated only after he feels that his acceptance as a client is not contingent on any prescribed modes of behaving.

B. Pattern Similarity:

1. Between Reflexes Sent To Counselors, Parents, and Others

In Figure 6 and 9 the data are mapped so that the similarity in behavior sent by subjects to counselors can be compared to the behavior sent to parents and others. It can be seen in those figures that the subjects withdrew (H) less with their counselors than they did with others, but no less so than they did with their parents. The subjects were more cooperative, dominant, and less competitive with counselors than they were with either parents or others. On the other hand, the subjects reported more affiliative interactions with parents and others than was characteristic of their interactions with their counselors.

2. Early Versus Late Interviews

Data are reported separately in four figures in Appendix E regarding the differences in early and later interviews between subject-other and subject-counselor interactions. These data are summarized in Figure 7. The major differences in early and late interviews seems associated with the behavior that the subject sends to his counselor. In later interviews, the subject is more dominant, less cooperative, and somewhat less withdrawing and more boastful.

C. Summary

In interacting with counselors, the subjects are mainly cooperative. They vacillate between dominant and submissive behavior which is characterized on one hand by boastful, informing attitude and by withdrawal and passive resistance on the other hand. On the average, this behavior is maintained over time except that in later interviews the cooperative attitude and withdrawal lessens and the dominance increases.

The subjects' counselors are affiliative in a dominant way, often using interpretive responses in reaction to the subject's behavior. The overall interaction patterns between counselor and subject does not follow the predicted lawfulness postulated by theory. The reported interactions of the subject with parents and others are more lawful. A competitive, boastful attitude tends to elicit similar behavior, and submissiveness in the subject is countered by dominance.

In general, the subjects reported interactions in which they are less cooperative and more withdrawing with parents and others than they are with counselors. They are also less trustful of others than they are of counselors or parents. With regard to their parents, the subjects expect less trust than they reported in their reflexes directed at parents. They also report interactions in which they are boastful and submissive and their parents are dominant.

Testing the Study Hypotheses

The central propositions of this study were defined in terms of two general hypotheses:

H: While under stress and during significant interaction with a counselor, a subject's behavior will replicate the behaviors of other significant encounters.

H. While under stress and in interaction with significant persons, subjects will elicit predictable responses by their behaviors.

The first general hypothesis was an investigation of pattern similarity and changes in similarity under different conditions (first versus later interviews) whereas the second major hypothesis was an inquiry into the structure of the behaviors that were reciprocally elicited during interactions. These hypotheses were reframed as a series of specific null and directional hypotheses with regard to three areas of inquiry.

II. First Line of Inquiry: Pattern Similarity in Different Dyadic Interactions

H_1: There is no difference in the pattern of behavior of the subject toward his counselor than in the pattern of behavior toward others.

H_{1a}: There is no difference in the pattern of behavior of the subject toward his counselor than in the pattern of behavior toward others in early interactions.

H_{1b}: There is no difference in the pattern of behaviors of the subject toward his counselor than in the pattern of behavior toward others in later interactions.

H_{1c}: There is no difference in the pattern of behaviors of the subject toward his counselor in later interactions than in the pattern of behavior toward others regardless of when material was recalled.

H_2: There is no difference in the pattern of behavior of the subject toward his counselor than in the pattern of his behavior toward his parents.

H_{2a}: There is no difference in the pattern of behavior of the subject toward his counselor in earlier interviews than in the pattern of his behavior toward his parents.

H_{2b}: There is no difference in the pattern of behavior of the subject toward his counselor in later interviews than in the pattern of his behavior toward his parents.

To test these hypotheses, the Wilcoxon Matched-Pairs Signed-Ranks test (27) was applied to the ranked signed differences between the D-Scores for the appropriate interaction dyads under consideration. The reader may refer to the operational definitions of the hypotheses in the preceding section for complete definitions of the combinations of paired differences used to test each of these hypotheses. But an example at this point may clarify the procedure.

To determine whether there was greater similarity in the subjects' responses to their counselors than chance, the equation was established that the pattern similarity in messages sent by subjects to counselors across the sixteen reflexes of the circumplex when they were converted to proportions would be equal to the pattern similarity of the same sixteen reflexes when they were deviated from the subjects' generalized response tendency toward others ($CeT_{1+2} - CeO_{1+2} \quad DCeT_{1+2} - CeO_g$). The D-Scores obtained on the left hand side of the equation were deviated from those on the right hand side and the resultant differences were signed according to whether the discrepancy was increased or decreased. The ranks of the smaller vlaues (increase versus decrease) were then summed and applied to the Wilcoxon formula:

$$\bar{z} = \frac{T - \frac{N(N+1)}{4}}{\sqrt{\frac{N(N+1)(2N+1)}{24}}}$$

The results of these tests are reported in Table 2. The format of the table is as follows. Along the left hand margin the pattern similarity between the messages sent by subjects to counselors is compared to the reflexes sent to others and to parents.

Table 2

Results of Wilcoxon Matched-Pairs Signed-Ranks Tests Used to Test Hypotheses Regarding First Line of Inquiry: Reflexes Sent by Subjects (Ss) to Counselors (Co) are No Different Than Reflexes Sent by Subjects to Parents (Ps) and Others (Os)

		Wilcoxon Values		
		$\underline{T}^1$	$\underline{z}$	$\underline{p}^2$
Ss to Co. vs. Ss to Os	Total Reflexes (H_1)	158	- 2.7494	.0060
	Initial Reflexes (H_{1a})	76	- 4.0377	.00006
	Later Reflexes (H_{1b})	119	- 3.3621	.00032
	Later vs. Total (H_{1c})	163.5	2.6630	.0078
Ss to Co. vs. Ss to Ps	Total Reflexes (H_2)	102	- 3.6292	.00028
	Initial Reflexes (H_{2a})	116	- 3.4093	.0006
	Later Reflexes (H_{2b})	67	- 4.1791	.00006

[1] T is the sum of the ranks with the less frequent deviation sign.

[2] Probability levels are doubled to test the hypothesis as a null hypothesis.

The upper half of Table 2 refers to the pattern similarity between messages sent by Subjects (Ss) to counselors (Co) and all others (Os). In the lower portion of the table, the similarity between reflexes sent by subjects to counselors is compared to those sent by subjects to parents (Ps).

These reflex patterns are reported for initial interviews, later interviews and for the total reflex activity of the subject regardless of the time when they were sent. In the columns of the table, the Wilcoxon T values are listed, the z value is reported, and the two tailed probability of the occurrence is reported for a z as large as or larger than the reported z.

It can be seen from the data in the table that the null hypothesis that the reflexes sent by subjects in any pair of dyads is equal to the "generalized" response pattern of subjects is rejected. The data, however, are in a direction that is opposite that which would be predicted by a directional hypothesis. That is, in every case, the discrepancy between the reflexes sent by subjects to counselors and to parents or others was greater than the discrepancy between the subjects' generalized response tendency and the reflexes they sent to parents and others.

III. Second Line of Inquiry: Increasing Pattern Similarity Under Different Conditions

H_3: There is an increasing amount of similarity in patterns of behavior of the subject toward his counselor as compared to previous interactions with others.

H_4: There is an increasing amount of similarity in patterns of behavior of the subject toward his counselor as compared to previous interactions with parents.

Data are reported in Table 3 regarding the second line of inquiry. The format of the table is similar to Table 2. Along the left hand margin, the upper half of the table refers to the reflexes sent by subjects to counselors versus those sent to others. In the lower half of the table the similarity between reflexes sent to counselors is compared to those sent to parents.

The Wilcoxon T values are then reported for the signed ranked difference between the initial and later similarity scores. A negative z value indicates that fewer of the subjects had signs in the direction opposite that of the predicted hypothesis. In the last column the significance level of the z score is reported as a one-tailed probability.

Table 3

Results of Wilcoxon Matched-Pairs Signed-Ranks Tests Used to Test Directional Hypotheses Regarding Second Line of Inquiry: Reflexes Sent by Subjects (Ss) to Counselors (Co) Will Become Increasingly Similar to Reflexes Sent by Subjects to Parents (Ps) and Others (Os)

Initial versus Later Interviews

	Wilcoxon Values		
	T^1	z	p^2
Subjects to Counselors vs. Subjects to Others	106	-3.5663	.000198
Subjects to Counselors vs. Subjects to Parents	169.5	-2.5687	.0051

[1] T is the sum of the ranks with the less frequent deviation sign.

[2] Probability levels are for one-tailed directional hypothesis.

It was hypothesized that the reflexes sent by the subjects to counselors would become increasingly similar to the reflexes sent by subjects to their parents and other persons who were significant to them. In both cases, the directional hypotheses were supported. In later interviews, the reflexes of the subjects toward their counselors were significantly closer ($p=.00018$) to the reflexes that they sent to others. Similarly, the later interviews reflected increasing similarity between the reflexes sent to parents and those sent to counselors ($p=.0051$). The hypotheses were, therefore, accepted with confidence and one of the central propositions of this study was demonstrated.

IV. Third Line of Inquiry: Reciprocal Interaction Patterns

H: While under stress and in interaction with significant persons, subjects will elicit predictable responses by their behaviors.

Subject-Counselor Interactions:

H_5: Subjects in interaction with counselors will elicit predictable counter-behaviors from their counselors.

> H_{5a}: Subjects in interaction with counselors during first interviews will elicit predictable counter-behaviors from their counselors.
>
> H_{5b}: Subjects in interaction with counselors during later interviews will elicit predictable counter-behaviors from their counselors.

Data regarding subject-counselor interactions are reported in Table 4, Table 5 and Table 6. In Table 4, the subject-counselor interactions regardless of conditions were reported. The next two tables present the results of analysis of first (Table 5) and later (Table 6) interview data respectively.

The format of all of the tables in this section is similar. Comparisons are made between the proportion of responses sent by the participants to each other in each of four quadrants of the circumplex. The categories are abbreviated for convenience as follows: Competitive-Hostile (BCDE); Passive-Resistant (FGHI); Support-Seeking (JKLM); and Supportive-Interpretive (NOPA).

The Spearman Rank Order correlation coefficient (27) is the regression index. Since the hypothesis regarding subject-counselor interactions was predicted from previous research (17) directional hypotheses were established in accord with the notations in the Method section. The appropriate level of significance was therefore considered to be a one-tailed test. With regard to the subject-other and subject-parent interactions, the previous empirical work (12) did not lend itself to specific hypotheses for a quadrant analysis. Those data are therefore reported as two-tailed tests of significance. With this general information, the data in Tables 4, 5, and 6 can be interpreted.

The data in Table 4 confirm the four directional hypotheses presented in the last section regarding subject-counselor interactions. Specifically stated, hostile-competitive (BCDE) behavior elicits counter-hostility and competitiveness ($p. \leq .0062$). In addition, such behavior pulls passive-resistance (FGHI) from the counselor ($p. \leq .0116$) and is negatively correlated with supportive-interpretive behavior ($p. \leq .0103$). On the other hand, the subjects' help-seeking behavior (JKLM) evokes supportive-interpretive (NOPA) counselor behavior ($p. \leq .0265$).

Table 4

Comparison[1] of (N=39) Subjects' and Counselors' Reflex Behavior During Initial and Later Interviews: A Quadrant Analysis

Subject to Counselor	Counselor to Subject			
	BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.40**	.34**	-.02	-.37**
Passive-Resistant (FGHI)	-.05	.18	-.15	.05
Support-Seeking (JKLM)	-.23	-.38**	-.01	.31**
Supportive-Interpretive (NOPA)	-.06	-.22	.07	.09

[1] Spearman Rank Order correlation coefficients.
*p. $\leq$ .05 as one-tailed test.
**p. $\leq$ .01 as one-tailed test.

Table 5

Comparison[1] of (N=39) Subjects' and Counselors' Reflex Behavior During Initial Interviews: A Quadrant Analysis

Subject to Counselor	Counselor to Subject			
	BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.50**	.38**	.15	-.44**
Passive-Resistant (FGHI)	.24	.32*	-.32**	-.02
Support-Seeking (JKLM)	-.42**	-.28*	.09	.19
Supportive-Interpretive (NOPA)	.01	-.30*	.23	-.11

[1] Spearman Rank Order correlation coefficients.
*p. $\leq$ .05 as one-tailed test.
**p. $\leq$ .01 as one-tailed test.

Table 6

Comparison[1] of (N=39) Subjects' and Counselors' Reflex Behavior During Later Interviews: A Quadrant Analysis

Subject to Counselor	Counselor to Subject			
	BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.35**	.44**	-.09	-.33*
Passive-Resistant (FGHI)	.03	-.00	-.05	.02
Support-Seeking (JKLM)	-.32*	-.38**	.11	.26*
Supportive-Interpretive (NOPA)	-.10	.06	.03	.11

[1] Spearman Rank Order correlation coefficients.
*p. < .05 as one-tailed test.
**p. ≤ .01 as one-tailed test.

An additional finding which was not predicted but which fits the interpersonal pattern is that help-seeking (JKLM) behaviors are negatively correlated with passive-resistant (p. ≤ .0079) behaviors.

The pattern of interactions in initial interviews (Table 5) generally replicates the overall pattern with some exceptions. The subjects' passive-resistance is significantly (p. ≤ .0205) related to counselor resistance and negatively related to counselor help-seeking behavior (p. ≤ .0219).

In Table 6 it can be seen that the later interview behavior is almost an exact replication of the data reported in Table 4. Since the later interview data in Table 6 are based on more reflexes than the first interview data, it was expected that the results of analyzing later interview data would converge on the overall picture.

The data in these tables confirm the four directional hypotheses formulated on the basis of previous research. Several additional significant correlations were reported which are in keeping with the general theory but were not specifically hypothesized.

Secondly, when the data in initial interactions (Table 5) are compared with those of later interactions (Table 6), it was found that the subjects' passive-resistant behaviors were no longer correlated with passive-resistant and help-seeking behavior by the counselor. In addition, support-seeking behavior by the subject was met by supportive-interpretive counselor behavior.

Subject-Counselor Interaction: Residual Effects

H_{5c}: The interaction of subjects with counselor in later interviews will reflect the latent effects of earlier counselor responses.

H_{5d}: Counselors' responses in later interviews will reflect the latent effects of earlier client elicitations.

Data are presented in Table 7 and Table 8 regarding the latent effects and learned behaviors in subject-counselor interactions. Latent effects are defined operationally as the correlation between counselor reactions to subject reflexes. Learned behaviors are defined as the correlation between later subject reflexes and counselors' reactions to the initial subject reflexes.

The format of these tables is identical to the preceding ones, and the four previous directional hypotheses are invoked to test the latent and learned effects. In Table 7 the counselor's latent effects are reported. It can be seen there that the counselor's behavior in later interviews is correlated with early subject stimulus behaviors in much the same way as occurred in stimulus-response activity within a given interview.

Three of the four directional hypotheses were demonstrated. The initial hostile-competitive behavior of the subject is significantly and positively correlated with counselor hostility and competitiveness ($p. \leq .0290$), and with counselor passive-resistance ($p. \leq .0198$). Such subject reflex activity is also negatively correlated with supportive-interpretive ($p. \leq .0095$) counselor reactions. The fourth hypothesis that support-seeking behavior is related to supportive-interpretive responses was not demonstrated ($p. \leq .0803$).

Two additional findings are reported in Table 7. The subjects' passive-resistance is related to similar counselor behavior ($p. \leq .0093$) and help-seeking subject behavior is negatively correlated with passive-resistance by the counselor ($p. \leq .0017$).

When the data in Table 8 are studied and compared with those reported in Table 7, an interesting contrast is highlighted. The later subject behavior with one exception has no significant relationship to earlier counselor stimulation. The one exception to this finding is that the subjects' hostile-competitive behavior is significantly and positively correlated ($p. \leq .0085$) with similar initial counselor behavior.

Table 7

Latent Effects: Comparison[1] of (N=39) Subjects' Initial Interview Behavior versus Counselors' Later Interview Behavior: A Quadrant Analysis

Subject to Counselor: Initial	Counselor to Subject: Later			
	BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.31*	.33*	.16	-.37**
Passive-Resistant (FGHI)	-.17	.37**	-.21	.17
Support-Seeking (JKLM)	-.09	-.46**	-.06	.23
Supportive-Interpretive (NOPA)	.20	-.13	.05	-.19

[1] Spearman Rank Order correlation coefficients.
*p. _ .05 as one-tailed test.
**p. _ .01 as one-tailed test.

Table 8

Learned Behavior: Comparison[1] of (N=39) Subjects' Later Interview Behavior versus Counselors' Initial Interview Behavior: A Quadrant Analysis

Subject to Counselor: Later	Counselor to Subject: Initial			
	BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.38**	.08	-.11	-.13
Passive-Resistant (FGHI)	-.01	.10	-.05	-.10
Support-Seeking (JKLM)	-.15	.07	.06	.09
Supportive-Interpretive (NOPA)	-.02	-.17	.16	.04

[1] Spearman Rank Order correlation coefficients.
*p. _ .05 as one-tailed test.
**p. _ .01 as one-tailed test.

Subject-Other Interactions

H_6: The self-reported interactions of subjects with others will elicit predictable counter-behaviors from others.

H_{6a}: The self-reported interactions of subjects with others during early interviews will elicit predictable counter-behaviors from others.

H_{6b}: The self-reported interactions of subjects with others during later interviews will elicit predictable counter-behaviors from others.

The data presented in Table 9, Table 10, and Table 11 are based on a correlational analysis of the subjects' interactions with others. The data presented in Table 9 were obtained by correlating the proportions of the subjects' reflexes toward others in each quadrant with the proportion of reflexes sent to him by others regardless of whether the interactions were reported during initial or later interviews. The data are then broken down in the two tables according to whether the interactions were described in initial (Table 10) or later (Table 11) interviews.

The format of the tables is similar to those previously reported except that the significance levels are reported as two-tailed tests of the hypotheses. The rationale for this procedure has been described in the Method section. Since the hypotheses were exploratory, significance levels were reported at less than or equal to the ten percent probability level.

It can be seen in Table 9 that the correlations do not follow the theory. Whereas it would be expected from Leary's formulation that passive-resistant behavior (FGHI) would correlate highly with hostile-competitive (BCDE) behavior, the opposite relationship is obtained ($p. \leq .10$). The subjects also reported interactions in which the subjects' help-seeking behavior is correlated with higher (BCDE) behavior ($p. \leq .10$) and affiliative behavior is related to more passive-resistance (FGHI) ($p. \leq .10$).

The relationship between dominant affiliative (NOPA) behavior and passive-resistance is associated with later (Table 11) rather than initial reports of interactions. In initial interactions, (Table 10) subjects' reports indicate a different reflex relationship: dominant-affiliative (NOPA) behavior is correlated with help-seeking behavior ($p. \leq .01$) and negatively correlated with reciprocal (NOPA) behavior by others ($p. \leq .01$).

A second shift in reflex association occurs in the relationship between passive-resistant behavior (FGHI) and supportive-interpretive behavior (NOPA). Initially these reflexes are correlated, ($p. \leq .10$), but later the correlation is non-significant.

Table 9

Comparison[1] of (N=36) Subjects' and Others' Reflex Behavior ad Reported by Subjects During Initial and Later Interviews: A Quadrant Analysis

Subject to Others	Others to Subject			
	BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.11	-.07	.21	-.13
Passive-Resistant (FGHI)	-.28*	.04	-.16	.21
Support-Seeking (JKLM)	.29*	.00	-.18	.02
Supportive-Interpretive (NOPA)	.07	.31*	.09	-.34**

[1] Spearman Rank Order correlation coefficients.
*p. ≤ .10 as two-tailed test.
**p. ≤ .05 as two-tailed test.

Table 10

Comparison[1] of (N=36) Subjects' and Others' Reflex Behavior as Reported by Subjects During Initial Interviews: A Quadrant Analysis

Subject to Others	Others to Subject			
	BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.17	.00	-.11	-.15
Passive-Resistant (FGHI)	-.15	-.11	-.04	.30*
Support-Seeking (JKLM)	.15	.26	-.04	-.11
Supportive-Interpretive (NOPA)	.06	.05	.41***	-.48***

[1] Spearman Rank Order correlation coefficients.
*p. ≤ .10 as two-tailed test.
**p. ≤ .05 as two-tailed test.
***p. ≤ .01 as two-tailed test.

Table 11

Comparison[1] of (N=36) Subjects' and Others' Reflex Behavior as Reported by Subjects During Later Interviews: A Quadrant Analysis

Subject to Others	Others to Subject			
	BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.24	.04	-.06	-.15
Passive-Resistant (FGHI)	-.01	.03	-.24	.27
Support-Seeking (JKLM)	.05	-.24	.32*	-.00
Supportive-Interpretive (NOPA)	-.26	.33**	-.07	-.07

[1] Spearman Rank Order correlation coefficients.
*p. $\leq$ .10 as two-tailed test.
**p. $\leq$ .05 as two-tailed test.

Subject-Parent Interactions

H_7: The self-reported interactions of subjects with parents will elicit predictable counter-behaviors from parents.

The data regarding subject-parent interactions are reported in Table 12 and Table 13. The format of Table 12 is similar to those just reported whereas the composition of Table 13 differs somewhat and is described later.

The results of the correlational analysis reported in Table 12 bear a striking resemblence to the interaction between subject and counselor with some notable differences. It can be seen in Table 12 that high hostile-competitive (BCDE) behavior is significantly correlated with passive-resistant (FGHI) reflexes in parents (p. $\leq$ .05) and with low help-seeking (JKLM) (p. $\leq$ .05) and low supportive-interpretive (NOPA) parent behavior (p. $\leq$ .10). In addition, the subject's passive-resistance is negatively correlated with parent passive-resistance (p. $\leq$ .05). Interestingly enough, the subject's passive-resistant behavior is also correlated with high (NOPA) supportive-interpretive behavior by parents (p. $\leq$ .05). Lastly, the subject's own dominant-affiliative behavior is related positively to the parents help-seeking (JKLM) behavior (p. $\leq$ .10) and negatively to parent competitiveness (BCDE) (p. $\leq$ .10).

The finding that hostile-competitive behavior is positively related to passive-resistance and negatively to supportive behavior is not surprising. Neither is the fact that dominant-affiliative behavior is negatively correlated with hostile-competitive reflexes. However,

Table 12

Comparison[1] of (N=36) Subjects' and Parents' Reflex Behaviors as Reported by Subjects During Initial and Later Interviews: A Quadrant Analysis

Subject to Parents	Parents to Subject BCDE	FGHI	JKLM	NOPA
Competitive-Hostile (BCDE)	.26	.39**	-.37**	-.31*
Passive-Resistant (FGHI)	-.24	-.32**	.19	.35**
Support-Seeking (JKLM)	.18	-.20	.03	-.01
Supportive-Interpretive (NOPA)	-.29*	.11	.31*	-.08

[1] Spearman Rank Order correlation coefficients.
*p. ≤ .10 as two-tailed test.
**p. ≤ .05 as two-tailed test.

Table 13

Comparison[1] of (N=36) Subjects' and Parents' Reflex Behaviors as Reported by Subjects During Initial and Later Interviews: An Octant Analysis

		Parents to Subjects							
		BC[2]	DE	FG	HI	JK	LM	NO	PA
Subjects to Parents	BC	.06	.10	.02	.36**	-.21	-.16	-.02	-.14
	DE	.16	.34**	.29*	.34**	-.04	-.49***	-.16	-.24
	FG	.17	.07	.10	-.11	-.02	.04	-.33**	.11
	HI	-.32*	-.03	-.32**	-.16	.11	.15	.19	.36**
	JK	.14	.11	-.44***	.02	-.07	-.08	.11	.05
	LM	-.08	-.08	.10	.01	-.30*	.21	-.02	.01
	NO	-.10	-.17	.31*	-.11	.29*	.19	.05	-.19
	PA	-.08	-.31*	.21	-.14	.39**	-.06	.10	.11

[1] Spearman Rank Order correlation coefficients.
[2] BC=Competitive-Exploitive; DE=Blunt-Aggressive; FG=Skeptical-Distrustful; HI=Modest-Self-Effacing; JK=Docile-Dependent; LM=Cooperative-Over-Conventional; NO=Responsible-Overgenerous; AP=Managerial-Autocratic.
*p. ≤ .10 as two-tailed test.
**p. ≤ .05 as two-tailed test.
***p. ≤ .01 as two-tailed test.

the relationship between passive-resistance and supportive behavior is not clear, and it was felt that this finding deserved further exploration.

To determine which components of FGHI behavior were associated with the elements of the NOPA reflexes, it was decided to undertake an octant analysis of subject-parent interactions. The results of that analysis are reported next. The data in Table 13 consist of the correlations between the proportions of responses sent by subjects and parents during early and later interviews when the proportions were correlated as octants instead of quadrants.

An octant analysis consists of combining the reflexes in a counter-clockwise fashion around the circumplex, yielding eight proportions for each of the BC through PA categories. Following Leary (12), category labels were assigned for convenience in reporting: BC=Competitive-Exploitive; DE=Blunt-Aggressive; FG=Skeptical-Distrustful; HI=Modest-Self-Effacing; JK=Docile-Dependent; LM=Cooperative-Over-Conventional; NO=Responsible-Overgenerous; AP=Managerial-Autocratic.

Since lack of clarity in the meaning of the FGHI-NOPA relationship stimulated this exploration, that finding is discussed here. It can be seen in Table 13 that skeptical-distrustful (FG) behavior by subjects is significantly but negatively correlated with responsible-overgenerous (NO) parent behavior. The subjects' modest-self-effacing (HI) behavior is positively correlated with managerial-autocratic (PA) behavior and negatively correlated with competitive-exploitive (BC) and skeptical-distrustful (FG) parent behavior.

The octant analysis, therefore, clarifies the questions raised by the positive correlation between the subject's passive resistance and supportive parent behaviors. The negative correlation between (FG) and (NO) behavior is overshadowed by the three positive correlations between (HI) and (NO) (PA) behaviors. That is, the skeptical behavior is negatively related to supportive behavior and the withdrawing, docile behavior is positively related to control by parents.

The remaining correlations in the table can be interpreted similarly. The octant analysis reported here points up the increase in sensitivity to the data from such a procedure. At the same time, the additional discriminatory power of the analysis is countered by increased difficulty in searching for reasonable interpretations of the data.

Summary

In this section, the findings were reported in four parts. The first section was a graphic description of the percentages of reflexes sent and received by the study subjects in several dyadic interactions and under different conditions. The dyads consisted of subject-counselor, subject-other, and subject-parent interactions. The conditions studied consisted of comparing the initial with later interview data.

The remaining three sections consisted of reports of the results obtained from tests of the hypotheses formulated within each of three areas of inquiry. In the next section, these results are discussed.

DISCUSSION OF RESULTS

This section of the report is divided into three parts to correspond to the different lines of investigation reported in the study. Since the findings which are related to hypotheses formulated around the second and third lines of inquiry were most stimulating, those areas of investigation are highlighted in this report.

First Line of Inquiry

The purpose of this area of investigation was to test several hypotheses based on the proposal that a subject's behavior toward his counselor resembles his behavior toward others more closely than would be expected by chance. The results of analyzing the data within this area of inquiry did not support the hypotheses. In retrospect, there are methodological reasons why the hypotheses were rejected.

The operational hypotheses formulated to test this proposal were based on comparing pattern similarity across two sets of behaviors. The first set of behavior consisted of studying the pattern similarity between the subject's reflex activity directed at his counselor with that directed at parents and others (DCeCo-CeO). The second set of behaviors involved in testing the hypotheses consisted of studying the pattern similarity in the behaviors directed at parents and others with those of a "generalized reflex responsivity toward others" (DCeO-CeOg). The tests of the hypotheses then consisted of determining whether the pattern similarity in the first set of behaviors was greater than the similarity in the second set of behaviors (DCeCo-CeO $<$ DCeCo-CeOg).

It should be pointed out that the "generalized response tendency" (CeOg) was derived by determining the average proportion of responses in each of the sixteen circumplex categories summed across all study subjects. It was thought that the "generalized response tendency" toward others was a suitable criterion for randomness. However, since the subject's "generalized response tendency" included his own responses to others, the hypothesis was actually weighted in a direction opposite that which was predicted. When this methodological consideration is incorporated into the results obtained in the analysis, it can be understood why the alternative hypothesis could not be accepted even though the null hypothesis was rejected.

Second Line of Inquiry

The purpose of this area of investigation was to test two hypotheses which were central to the basic proposition of this study. It was proposed that under conditions of stress and while in a significant relationship, subjects would recapitulate the behaviors that they learned in the family as a means of coping with and reducing threat.

The method of operationalizing hypotheses to investigate that propostion consisted of studying changes in the pattern similarity between the reflex activity of the subject toward his counselor and toward his parents under conditions of stress and during significant encounters. It was specifically hypothesized that during later interviews, the subject's behavior addressed to the counselor would become increasingly similar to that which was sent to parents and to other significant persons. Both of these directional hypotheses were supported and were accepted with confidence ($p. \leq .0051$; $p. \leq .00018$).

The implications of this finding are manifold. With regard to counseling theory, the hypothesis as formulated is an operational definition of transference, and the finding that over time the behavior directed at the counselor does in fact become increasingly similar to that sent to parents is supporting evidence for the existence of such a hypothetical construct.

The convergence of reflexes sent by subjects to parents and counselors is also supporting evidence for the theoretical proposition that was developed previously by Kell and Mueller (8) from empirical analysis of counseling interview material. In that work, a strong recurrent theme in the counseling relationships of clients and counselors was observed.

It was noted that when the relationship became intense and the counselor became important to the client, the client would begin simultaneously to recall highly charged emotional interactions between himself and his parents and actually to "act out" the same interaction with the counselor. That is, a parallel set of behaviors which were structurally similar occurred in which one set of behaviors referred to the recall of the client's more generic interaction with his parents and the other set referred to the ongoing relationship with the counselor. The data from this study provided rigorous confirmation of that proposition.

With regard to counseling practice, these findings stimulate several considerations. Since the central proposition of this study was demonstrated, its corollary is advanced. If antecedent intrafamilial behavior is the generic model for subsequent adult behavior, then study of the behavioral components of the generic model can provide a useful method for modifying ineffective interpersonal behavior. And the counselor is in a key position to effect behavioral change since the generic behaviors are re-enacted with him.

When the information that the subject's behavior toward parents and counselor converges is coupled to the findings from the third line of inquiry that the counselor's mode of behaving with the subject has a predictable impact on the subject's behavior, an additional implication is forthcoming. Not only is the counselor in a key position to effect a change, but the knowledge that his behavior has a predictable impact means that he can provide the subject with the appropriate emotional climate through which he can change.

Third Line of Inquiry

The purpose of this area of investigation was to test several hypotheses based on the proposal that subjects in interaction elicit predictable counter behaviors from each other. This reciprocity principle was tested as directional hypotheses for the counselor-subject interaction based on the unequivocal findings of previous research (17). The hypotheses about the subject-other interactions were tested as null hypotheses because the previous research provided limited information about the effects of quadrant analyses such as those reported in this study.

In both cases, the method of testing the hypotheses consisted of rank order correlating the proportion of responses sent by subjects in interaction for each of the quadrants of the circumplex. It can be seen that this procedure does not permit investigation of questions about specific elicitators. It did, however, provide the opportunity to test the tendency for response patterns to "go together" during interaction.

Subject-Counselor Interactions

The results of the analysis of counselor-subject interactions replicated the previous findings (17) and the four directional hypotheses were accepted with confidence. In general, it seems that when the subject asks for help appropriately, the counselor responds with nurturance and is neither hostile nor passive toward the subject. However, when the subject is competitive and hostile, the counselor reciprocates and withholds help.

One rather interesting but somewhat anxiety provoking interpretation of these data is that the subject holds as much sway over the counselor's feelings as the counselor does over the subject's feelings. This interpretation of the data which suggests that modulation of the emotional climate of the interview is a mutual affair is another proposition advanced by Kell and Mueller (8). They noted that clients and counselors have a reciprocal emotional impact and that both of them are changed through their encounters. In fact, they proposed that unless change is mutual, therapy may not have occurred.

Subject-Counselor Interactions: Residual Effects

One of the additional interesting findings regarding the subject's interaction with counselors was related to the latent effects of earlier interactions. For this investigation, it was proposed that later interactions of subjects and counselors will reflect some of the residual effects of earlier encounters. This kind of reasoning is central to considerations about transference and counter-transference. In other words, will the subject's later behavior reflect learning that resulted from earlier counselor reactions to his initial stimulus reflexes? On the other hand, will the counselor's later behavior reflect the latent effects of the stimulus value of earlier encounters with the subject?

The unexpected finding was that the counselor's behavior reflected more latent effects than did the subject's. In fact, the subject's later response categories were random with regard to the earlier counselor behavior, whereas the counselor's later behavior was related to earlier subject behavior in much the same way as his initial reactions to the stimulation. The meaning of this finding is unclear as yet and further exploration, such as octant analysis, are necessary before implications can be drawn.

Subject-Parent Interaction

A word of introduction seems appropriate before discussing the subject-parent interactions. It should be remembered that the subjects who reported these interactions were voluntarily engaging in counseling because they were personally conflicted. The interviews selected for analysis in this study were selected on the basis that the subjects were anxious at the time and that a change occurred in their perception of themselves in relation to one or both of their parents. Under such conditions, one would expect that the recalled interactions would be significant ones and that close study of the interaction patterns may contribute to an understanding of some of the interpersonal aspects of emotional distress.

Turning to the reported interactions between parents and subjects, several patterns occurred which are predictable from theory (12). For example, as hypothesized by theory, critical-aggressive behavior is countered by similar behavior and by passive-resistance. Also in accord with theory, the subject's withdrawing, self-effacing behavior is correlated with dominant-controlling behavior by parents. Apparently the theory holds for this sample even when the parent-child roles are reversed since the subject's controlling-managing behaviors are correlated with docility on the part of the parents.

A dominant-submissive see-saw effect seems to be operating here. Withdrawal by the subject activates control in the parents whereas assertive behavior by the subjects is related to the parents' docility. For these subjects and their parents, this type of oscillation may be indicative of an undifferentiated emotional attitude about strength. That is, strength in one person must be balanced by weakness in the other.

This type of oscillation also invites speculation about the dynamic function it serves. Since the subjects and parents both seem to be participating in the oscillation, it probably serves a common emotional purpose. One interpretation is that it reflects the ambivalence in both participants about the subject's dependency. Provided that the subject experiences his "assertiveness" as associatively close to "docility" in his parents, it may be emotionally difficult for the subject to assert his independence since his parents are weakened by it. Contrariwise, the subject's own ambivalence about his independence may contribute to perperpetuating the cycle since the dominance in parents is countered by his own withdrawal, thus communicating some proof to his parents that his assertiveness is pseudo-independence.

An interesting paradox also occurs in the passive-resistant behavior of subjects and parents. Apparently, the parents do not nurture passive-resistance, but on the other hand, when the subjects are nurturant, the parents are docile and passive-resistant. The paradox is resolved if Table 13 is scanned for positive correlations with parent-nurturance. It seems that nothing sent by the subject is correlated with nurturant responses in the parents. If the apparent paradox about passive-resistant responses to nurturance is incorporated into the lack of nurturant responses in parents, a rather saddening conclusion may be reached. If the subjects' attempts to nurture their parents are met with resistance and docility and if their parents' own nurturance is withheld, the consequence must be the emotional experience of rejection.

In a recent study of normal and clinic families, MacKenzie (13) reported that the clinic families were not differentiated from normals on the basis of variability in response patterns but rather on the basis of differences in the amount of disaffiliative (competitive-hostile-resistant) behavior displayed in the criterion groups. The clinic families tended to use more disaffiliative reflexes than did the normals.

When that finding is compared to the data in Table 13, it can be seen that most of the significant correlations occur in the four disaffiliative octants to the left of center (BC - HI) and that of the remaining correlations three occur in the docile-dependent category (JK) and only one positive correlation occurs in the affiliative-dominant area (PA).

Since these subjects were experiencing emotional problems, there is something of an analog between this finding and MacKenzie's (13). In her direct observations of family interactions she observed clinic family interactions which are in accord with the reported interactions of subjects in counseling. This fact can be construed as providing validity for the subjects' reports.

Summary

In this section, the results of the analysis of the data within the three lines of inquiry were discussed. The second and third lines of inquiry were highlighted. Following this section, conclusions are stated and recommendations regarding logical extensions of the research are provided.

CONCLUSIONS AND RECOMMENDATIONS

The general research objectives into which this pilot study was placed are to study the nature and modifiability of the emotional problems experienced by students which reduce or restrict their adequate functioning in a university setting. The purpose of this study was to investigate the proposition that:

> Subjects under stress will, in their behavioral interaction with significant persons, recapitulate the behaviors learned by the subject within the family constellation.

The major premise of that proposition is that a subject's interaction in the family unit is the stimulus for all expanded adult behaviors with extrafamilial significant persons.

The operational hypotheses formulated to test this proposition were essentially supported. Therefore, the corollary to the proposition is advanced:

> If antecedent intrafamilial behavior is the generic model for subsequent adult behavior, then study of the behavioral components of the generic model can provide a useful method for modifying ineffective interpersonal behavior.

The corollary to the proposition can be recast into the following framework for continuing research about personality development and change:

1. To study how the ineffective interpersonal behaviors of university students have developed within the family.

2. To study the effects of specific antecedent intrafamilial interactions on the consequent emotional problems of young adults.

3. To study the potential modifiability of differing kinds of inappropriate modes of coping.

4. To study the counseling process which effectively modifies ineffective coping methods.

These four objectives for continuing research are stimulated by the positive findings of the present study. It would seem reasonable to assume from results of this study that the continued investigation of the relationship between antecedent family interactions and later significant modes of behaving with others through analyses of interactions of persons who are in counseling may eventually lead to a deeper understanding of the process of human interaction which leads to emotional problems.

In this study, a client's behaviors with his counselor were found to become increasingly similar to behaviors that occurred within the family constellation. When this result is coupled to the finding that the counselor's behavior has a predictable impact on the subject, the counselor's position of potential assistance to the client in modifying inappropriate behavior is enviable.

Not only is the counselor in a key position to effect change because the generic conflicts are re-enacted with him, but the results of the study also provide the counselor with clues about the nature of the reciprocal effects of his behavior on the client. This knowledge provides him with the opportunity to provide the appropriate emotional climate in which the client can change.

Further studies are now in order to study the nature of the learned behaviors which are conducive to particular behavior problems or to good mental health. In this respect, the pilot study has generated additional reasonable hypotheses about personality development. Further research inquiry of this kind can continue to search out methods for remedial and preventive work with students who are experiencing problems in their interpersonal behaviors.

The educational implications of the results of such research studies as this one are numerous. Currently there is much emphasis on the necessity for sensitivity training among educators. One purpose of this training would appear to be that such sensitivity to student needs would permit the educator to provide an emotional environment which would be most conducive to student learning.

Studies such as this one provide information about the consequences of behavioral interactions with significant persons which seem particularly relevant to education. If the teacher were aware of the intent of student elicitations and of the consequences of his own behavioral intervention he would be in a key position to elicit student behavior which would lead to more effective behavior and reduce response patterns which inhibit learning.

The positive findings of the present study provide the opportunity to deepen the research along the general lines proposed above. Specifically, it is proposed to extend the investigation of the effect of previous familial interactions on subsequent emotional problems of university students. To do so, additional extensive pre-counseling testing materials are being currently gathered from an additional sample of university students who are experiencing emotional problems. These data will permit a clearer delineation of problem areas so that differences in interaction patterns can be related to specific pre-conditions.

Secondly, more extensive analysis of a broader range of interview material will be studied so that the specific patterns of counselor-subject interactions can be related to tension induction and reduction and to alleviation of emotional distress. If more extensive material over the course of counseling is studied, it will also provide the opportunity to investigate further some of the characteristics of the transference of feelings during counseling that were found to occur in this study. Many questions are stimulated by this finding. What stimulates the transfer of feelings? Can the nature of potential transference be differentiated on the basis of emotional problems? How does the transfer of feelings become resolved?

Here again, the implications of this type of research are manifold for education in general. Students transfer many feelings onto their teachers since the conditions of stress and the significance of the relationship converge on those in counseling. How the teacher understands the meaning of this transference and uses it to assist the student rather than to be threatened by its intensity may be a differential characteristic of the classroom which is conducive to student development.

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APPENDICES

APPENDIX A

SEMANTIC DIFFERENTIAL

The Semantic Differential used in this study to locate critical incidents consisted of twenty-one concepts to which the subject responded pre-post counseling and after every fourth interview during counseling. A sample of the differential is included on the following pages of this appendix.

(1) Information data sheet
(2) Instructions to the subject
(3) Scales of the semantic differential which were repeated in the same form for each concept.
(4) Concepts to which the subject responded in completing the scales. Starred (*) concepts were those used in this study.

(1) Information data sheet

Measurement of Meanings - Form A

(1-6) Student Number ________________

(8-25) Student Name ____________________________________
Print: Last First Middle

(26-27) Age _____

(28) Male (1) _______
Female (2) ________
(check one)

(2) Instructions to the subject

INSTRUCTIONS[1]

The purpose of this study is to measure the meanings of certain things to various people by having them judge them against a series of descriptive scales. In taking this test, please make your judgments on the basis of what these things mean to you. On each page of this booklet you will find a different concept to be judged and beneath it a set of scales. You are to rate the concept to each of these scales in order.

Here is how you are to use these scales:

If you feel that the concept at the top of the page is very closely related to one end of the scale, you should place your check-mark as follows:

fair_X_:____:____:____:____:____:____unfair

OR

fair____:____:____:____:____:____:_X_unfair

If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

strong____:____:____:____:____:_X_:____weak

OR

strong____:_X_:____:____:____:____:____weak

If the concept seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:

active____:____:_X_:____:____:____:____passive

OR

active____:____:____:____:_X_:____:____passive

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you're judging.

INSTRUCTIONS (continued)[1]

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the concept, or if the scale is completely irrelevent, unrelated to the concept, then you should place your check-mark in the middle space:

safe___:___:___:_X_:___:___:___dangerous

IMPORTANT: (1) Place your check-marks in the middle of spaces, not on the boundaries:

___:_X_:___:___X___:___:___
This   Not This

(2) Be sure you check every scale for every concept - do not omit any.

(3) Never put more than one check-mark on a single scale.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgment. Work at a fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impression, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

This study consists of ten concepts. Turn the page and begin and continue through the conclusion of the concepts.

[1] These instructions were taken verbatim from Osgood, C. E. and Suci, G. *Measurement of Meaning*. Glencoe: University of Illinois Press, 1957.

(3) Scales of the semantic differential which were repeated in the same form for each concept.

Remember to make your judgments on the basis of what these things mean to you.

1. Woman[1]

large____:____:____:____:____:____:____small
thin____:____:____:____:____:____:____thick
colorless ____:____:____:____:____:____:____colorful
easy____:____:____:____:____:____:____difficult
safe____:____:____:____:____:____:____dangerous
modest____:____:____:____:____:____:____vain
sharp____:____:____:____:____:____:____dull
optimistic____:____:____:____:____:____:____pessimistic
weak____:____:____:____:____:____:____strong
free____:____:____:____:____:____:____constrained
fair ____:____:____:____:____:____:____unfair
active ____:____:____:____:____:____:____passive
bad ____:____:____:____:____:____:____good
destructive____:____:____:____:____:____:____productive
slow____:____:____:____:____:____:____fast
changing____:____:____:____:____:____:____stable

Go on immediately to the next page.

[1] Concept headings were varied but ordering and polarity of scales remained constant.

(4) Concepts of the Semantic Differential to which the subject responded in completing the scales. Starred (*) concepts were those used in this study.

1. Woman
2. My depending on others for love and help
* 3. My Father
4. Man
5. My feelings of anger directed at myself
6. Others depending on me for love and help
7. Hate
8. Controlling myself
9. Guilt
10. Sex
11. Most disliked me
12. Love
13. My failing to accomplish something I set out to do
14. My feelings of anger directed at others
15. Most liked me
* 16. My Mother
17. My mixed-up feelings about my behavior
* 18. Me
19. Authority
20. My conscience
* 21. Counselor

APPENDIX B

BREAKDOWN OF (N=39) STUDY SUBJECTS BY GROUP, NUMBER OF INTERVIEWS CONDUCTED, AND ACTUAL INTERVIEWS AND SEGMENTS SELECTED FOR ANALYSIS, AND RELIABILITY SEGMENTS

Breakdown of (N=39) Study Subjects by Group, Number of Interviews Conducted, and Actual Interviews and Segments Selected for Analysis, and Reliability Segments[1]

Group	Subject Code No.	No. of Interviews	Selected[1] Interviews	Level of Counselor: Ph.D. (PhD) Intern (I) Practicum (P)
Male Counselor and Female Subj.	06	6	1[1],3-6(3)[1]	I
	07	8	1,2-5	I
	09	14	2,9-12	I
	11	18	1,13-16(15)	I
	15	15	1,9-12(10)	I
	16	22	1,9-12(9)	PhD
	20	23	1,5-8	I
	28	11	1,5-8(7)	I
	32	7	1,2-5	PhD
	33	9	1,2-4,6(6)	I
	42	18	1,9-12	PhD
	45	20	1,2-5	I
	47	12	1,9-12(11)	P
	50	13	1,9-12	P
	54	37	1,5-8(7)	P
Male Counselor and Male Subj.	08	12	1,5-8(6)	I
	14	18	1,13-16(15)	I
	21	10	1,7-10(7)	I
	23	8	1,5-8	PhD
	31	19	1,5-8	I
	37	17	1,14-16	I
	39	9	2,6-9(6)	I
	41	17	3,14-17	I
	43	16	1,9-12	PhD
	44	14	1,5-8	PhD
	46	9	1,2-5(2)	P
	53	17	1,9-12(12)	P

Breakdown of (N=39) Study Subjects by Group, Number of Interviews Conducted, and Actual Interviews and Segments Selected for Analysis, and Reliability Segments (continued)[1]

Group	Subject Code No.	No. of Interviews	Selected[1] Interviews	Level of Counselor: Ph.D. (PhD) Intern (I) Practicum (P)
Female Counselor and Female Subj.	17	16	1,13-16(13)	I
	25	23	2,13-16	PhD
	26	18	1,5-8(6)	I
	34	6	1,2-4	PhD
	40	17	1,7-10(10)	I
	48	17	1,13-16	P
	51	18	1,9-12(9)	P
	52	10	1,2-4	P
Female Counselor and Male Subj.	12	4	1,2-4(3)	I
	22	5	1,2-4	PhD
	24	12	1,5-8	PhD
	49	5	1,2-5(4)	P

---

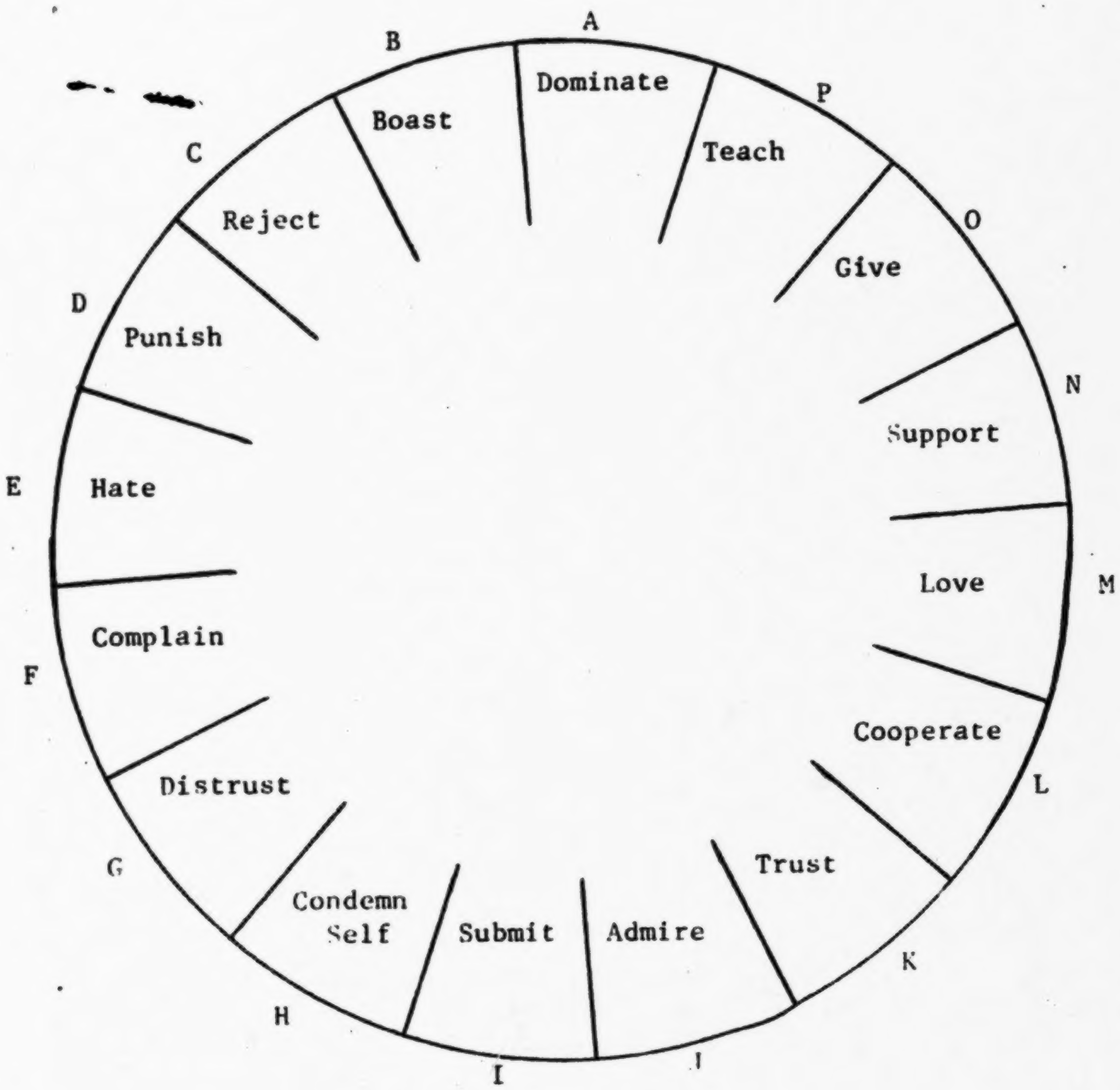
[1] A random half of all first interviews were reliability tapes; later interviews within parentheses (R) were reliability tapes.

APPENDIX C

THE CIRCUMPLEX USED BY JUDGES IN SCORING TAPES FOR INTERPERSONAL REFLEXES OF PARTICIPANTS

Appendix C

Categories of Interpersonal Behavior[1]


A
Dominate
P
Teach
O
Give
N
Support
M
Love
L
Cooperate
K
Trust
J
Admire
I
Submit
H
Condemn Self
G
Distrust
F
Complain
E
Hate
D
Punish
C
Reject
B
Boast

---

[1] This circumplex with illustrative verbs was presented by Freedman, M.B., Leary, T.F., Ossorio, A.G., Coffey, H.S. The interpersonal dimension of personality, Journal of Personality, 1951, 20, p.151.

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APPENDIX D

JUDGES' SCORING MANUAL

Judges' Manual for Scoring Tapes According to the Interpersonal System

Tapes are to be scored twice: On the first scoring, judge only the Client-Counselor interactions. On the second scoring, judge only the Client-Other interactions. The scoring units are to be established on the first scoring and then used to define the location of the contentual matter scored in the client-other interactions.

FIRST SCORING (Client (Ce)-Counselor (T) Interactions)

Scoring Units: A unit is an uninterrupted speech of the client or counselor. Units are numbered sequentially with arabic numerals:

Unit #		Mechanism
1	Ce T	
2	Ce T	

etc.

a) Comments which simply "lubricate" the client but which do not affect the feeling state being expressed are not considered interruptions. (e.g. T: uh-huh)

b) Comments by the client which lubricate the counselor are scored according to their intent.

Behavioral Reflexes: Within any given unit, the dominant feeling being expressed is scored according to the emotional state the speaker is attempting to establish with the other person.

a) The dominant feeling may shift during any one unit. Any shifts in dominant feelings are scored as mechanisms and ordered sequentially as they occur in the scoring unit.

(e.g. The client initiates the unit with "controlling" (A) behavior but becomes "self depreciating" (H) and then angry (C). Since all of these reflexes occurred within a given unit, they are scored:

Unit #		Mechanism(s)
1	Ce T	
2	Ce T	
3	Ce T	A....H....C

Multiple Reflexes: If two feeling states are bound together, are of equal strength, and are not sequentially separable, they are to be scored with a slash (/) separating them. This procedure is to be used sparingly and is more likely to occur during client-other interactions where feelings are recalled as compacted. (e.g. "My mother seemed to love and hate me both.")

Unit #		Mechanism(s)	Target
1	Ce F [✓ M]	M/E	[✓ Ce] F M

Interaction Sequences: An interaction sequence of the mechanisms occurring in two overlapping dyads (units).

(Ce-T-Ce) (T-Ce-T)

SECOND SCORING (Client-Other Interactions)

Scoring Units: Since some Ce-T interactions do not contain content which can also be scored as Ce-O interactions, the unit number of scorable material is that number which was assigned to the Ce-T interaction. The purpose of this procedure is to permit location of the Ce-O interaction during the counseling process.

Identifying the actor and target of Ce-O Interactions:

a) The actor and target of the mechanisms in Ce-O interactions are indicated by circling the actor of the interaction, recording the mechanism, and then circling the target of the mechanism as follows:

(e.g. The client says that he takes care of his mother.)

Unit #	Actor	Mechanism	Target
17	Ce F M B S P_m P_f	N	Ce F M B S P_m P_f

(Since this content occurred during the "17th" unit of the Ce-T interaction, that number is assigned to this mechanism.)

b) The client may have multiple targets.
(e.g. The client says "I always took care of my parents.")

Actor	Target
Ce	F M

c) The client may also express other feelings toward the targets. Such feelings are scored sequentially as they occur. (e.g. The client says "I always took care of my parents and it angered me.")

Actor		Target
Ce	N...C	F M

d) The client may express feelings which are to be reordered in scoring in order to communicate accurately the feeling pattern. (e.g. "I take care (N) of my parents and it angers (C) me to do so because they punished (D) me anyways.")

Ce	N	F M
FM	D	Ce
Ce	C	F M

(The scoring thus accurately reflects the fact that the client's anger emotionally follows from punishment even though the content is ordered otherwise.)

e) During a given unit the client may shift the content to a new set of targets, or an "other" may shift the target. These are simply scored sequentially.

f) When the client abstracts to the feeling level about his interactions with others they are scored as his projections in order to separate them from the judge's empathic interpretations of the meaning of the actual behaviors reported:

1. (e.g. My mother loved me.

	Mechanism		
Ce F M	M	Ce F M	P

is an attribution to the mother that is abstracted beyond the concrete behaviors.)

2. (e.g. My mother used to kiss me every night.

	Mechanism	
Ce F M	M	Ce F M

is a behavior whose meaning received the score of "M" because of the judge's empathic interpretation of client's feelings about the situation.)

Reliability Tapes

The first judge assigns the unit numeral to the typescript as he scores the tape for the Ce-T interaction.

In scoring the tape for Ce-T interaction, he places a slash at every point within the unit where a feeling state changes. This procedure enables both judges to score an equal number of mechanisms within a unit.

If a feeling state in a unit is a multiple one (two mechanisms occur with equal strength and cannot be scored as sequential), the first judge cues the second one that it has been scored that way by a marginal check (v) within the relevant slashes (/ v /).

A thermofax copy of the typescript is then judged by the first judge for the Ce-O interaction. This procedure will permit marking the typescript for changes of feeling within the content of the Ce-O interactions. This procedure is necessary since the feeling states for the Ce-T may or may not change in accord with the feeling states as related to the Ce-O interactions.

Client-Counselor Interaction

Code No.______________Interview No.__________Judge______Page No._______

Unit #	Actor	Mechanism
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
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	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	
	Ce T	

Client-Other Interaction[1]

Code No. __________ Interview No. __________ Judge ____________ Page No. ____________

Unit #	Actor	Mechanism	Target
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf
	Ce F M B S Pm Pf		Ce F M B S Pm Pf

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[1] This scoring format was suggested by MacKenzie, Marilyn. The Interpersonal Behavior of Normal and Clinic Family Members. Unpublished dissertation. East Lansing: Michigan State University, 1967.

APPENDIX E

DISTRIBUTION OF PERCENTAGES OF INTERPERSONAL REFLEXES SENT AND RECEIVED BY STUDY SUBJECTS

Figure A

Distribution of Percentages of (N=3866) Interpersonal Reflexes Sent by (N=39) Subjects to Counselors During First Interviews as Compared to (N=7123) Reflexes Sent to Counselors During Later Interviews

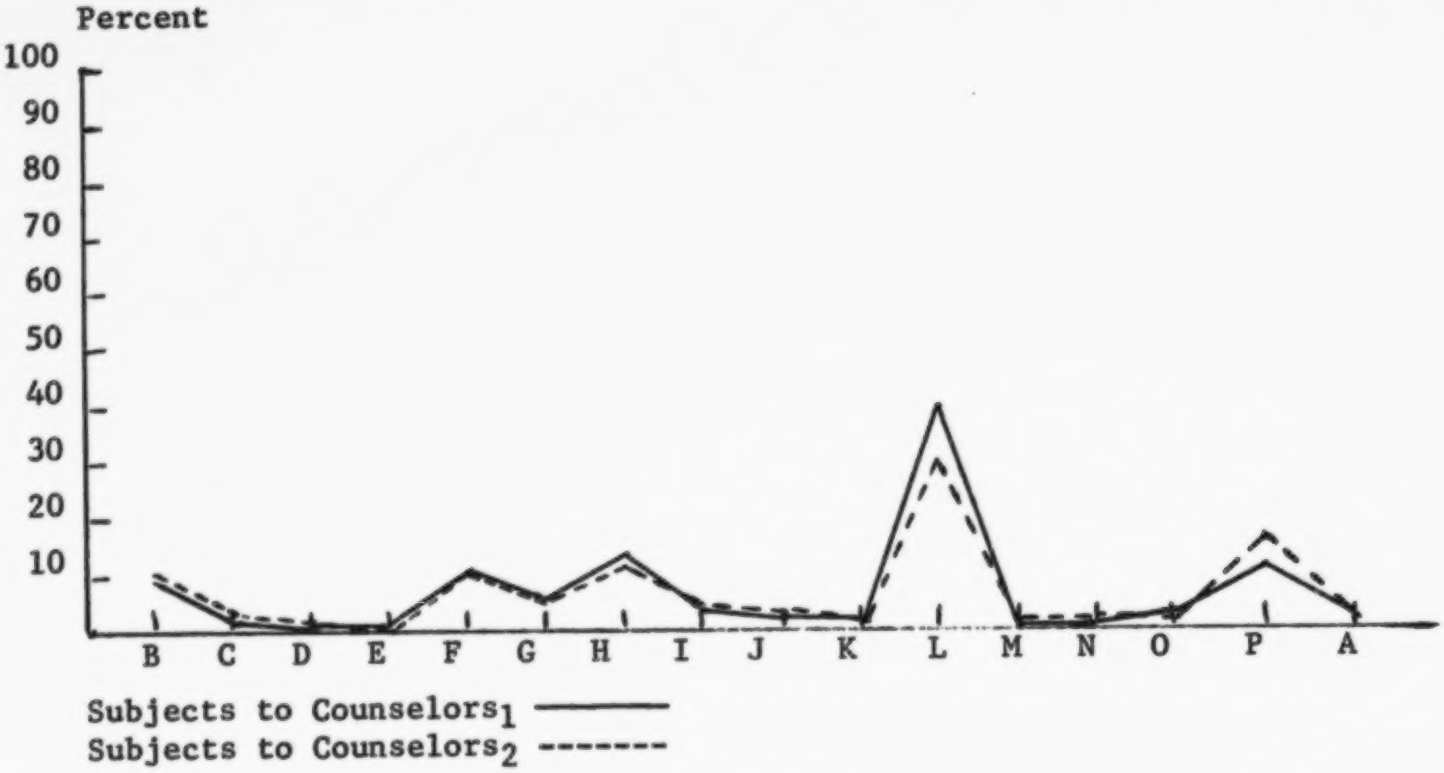


Figure B

Distribution of Percentages of (N=3866) Reflexes Sent by Counselors to (N=39) Subjects During First Interviews as Compared to (N=7123) Reflexes Sent by Counselors During Later Interviews

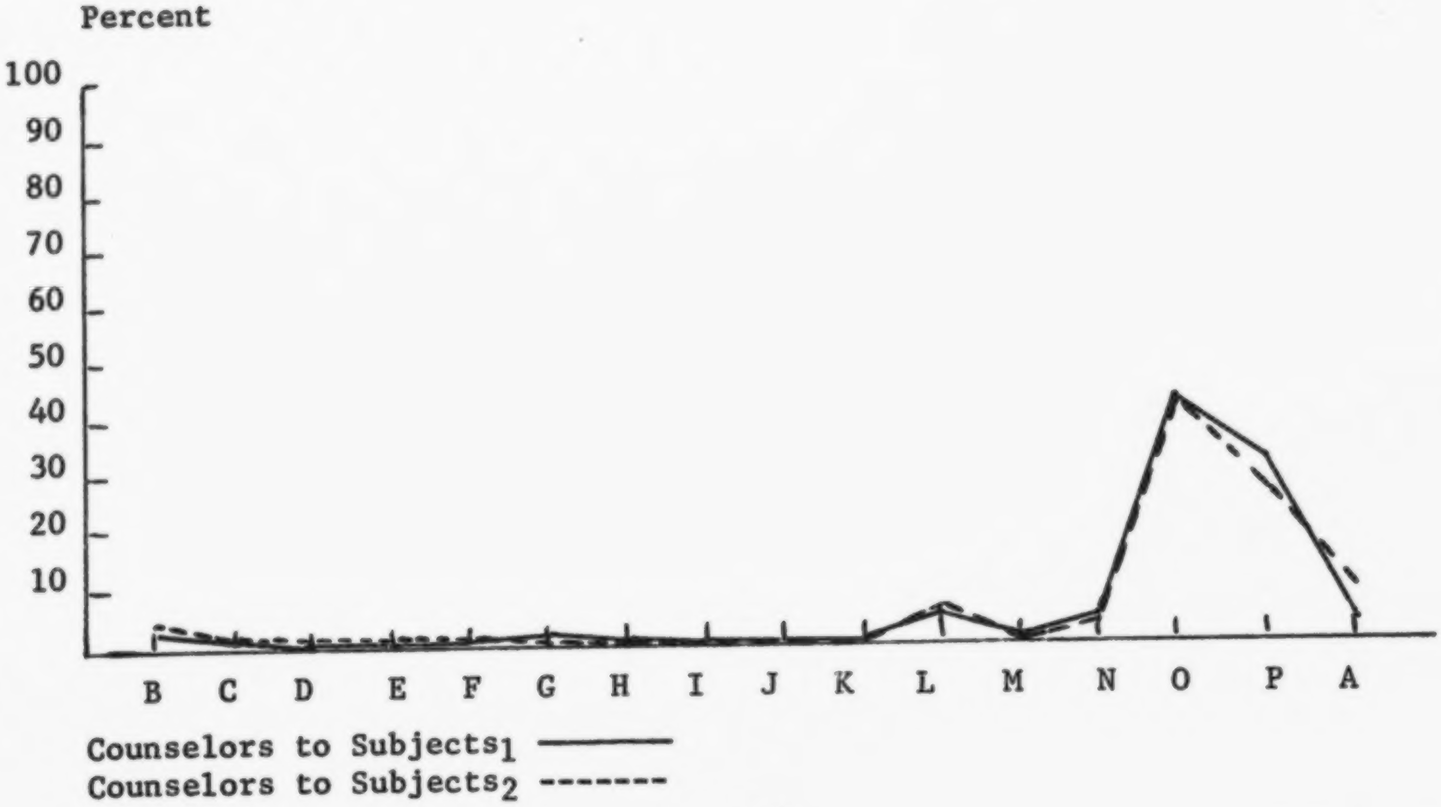


Figure C

Distribution of Percentages of (N=899) Interpersonal Reflexes Sent by (N=39) Subjects to All Others During First Interviews and Compared to (N=900) Reflexes Sent by Subjects During Later Interviews

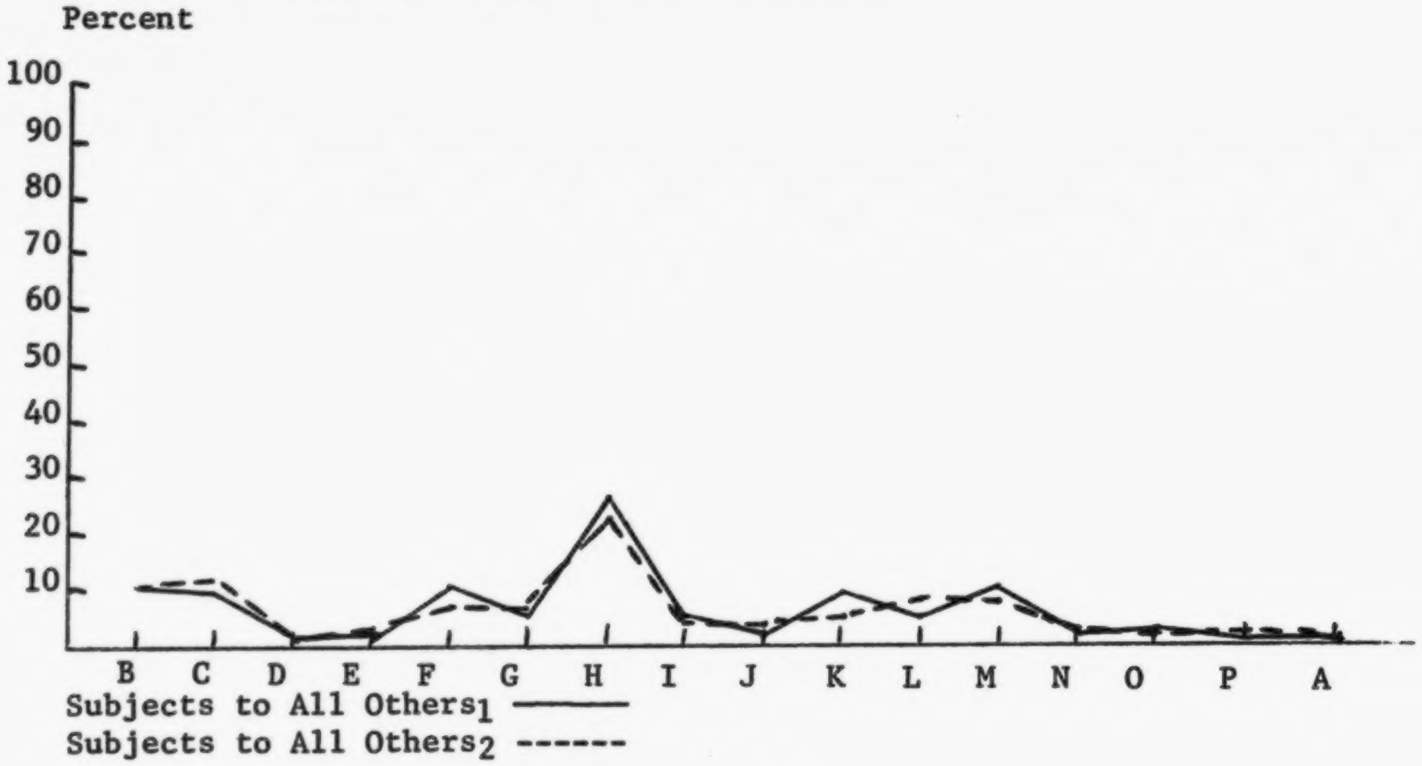


Figure D

Distribution of Percentages of (N=654) Reflexes Sent by All Others to (N=39) Subjects During First Interviews as Compared to (N=720) Reflexes Sent by All Others During Later Interviews

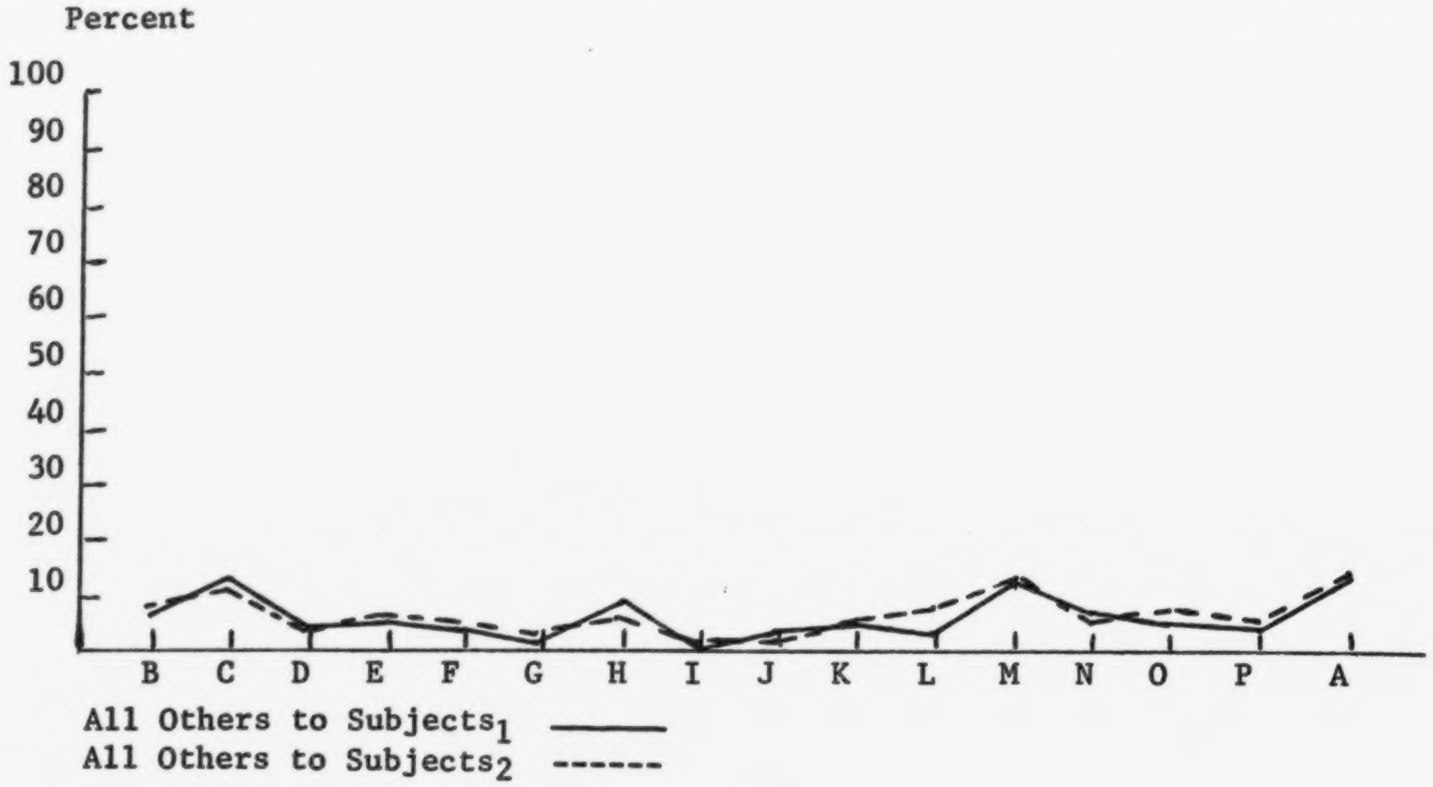


Figure E

Distribution of (N=3866) Interpersonal Reflexes Sent by (N=39) Subjects to Counselors in First Interviews as Compared to (N=880) Reflexes Sent by Subjects to Parents

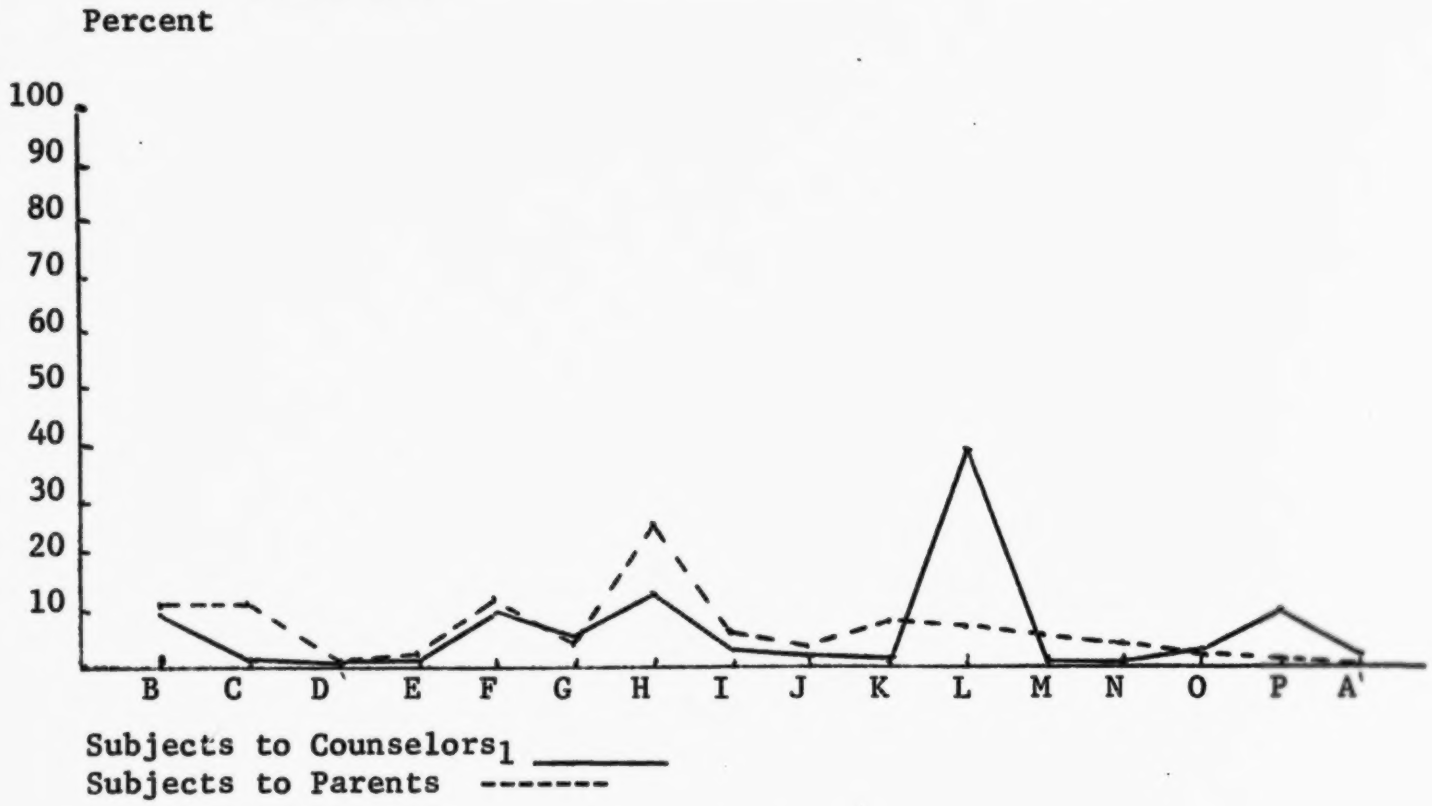


Figure F

Distribution of Percentages of (N=7123) Interpersonal Reflexes Sent by (N=39) Subjects to Counselors in Later Interviews as Compared with (N=880) Reflexes Sent by Subjects to Parents

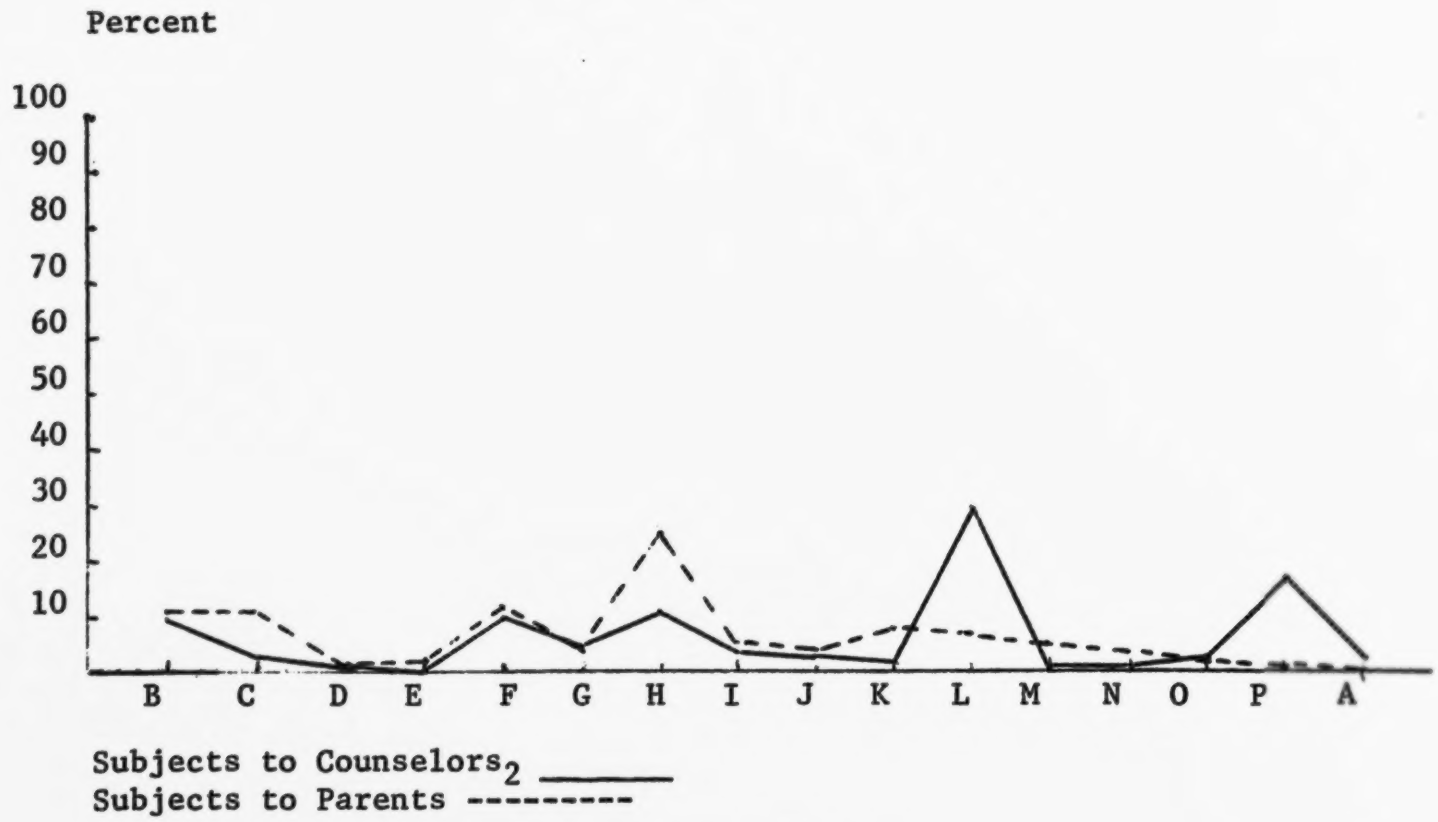


Figure G

Distribution of Percentages of (N=2485) Interpersonal Reflexes Sent by (N=23) Successful Subjects to Counselors in First Interviews as Compared to (N=4351) Reflexes Sent by Subjects to Counselors in Later Interviews

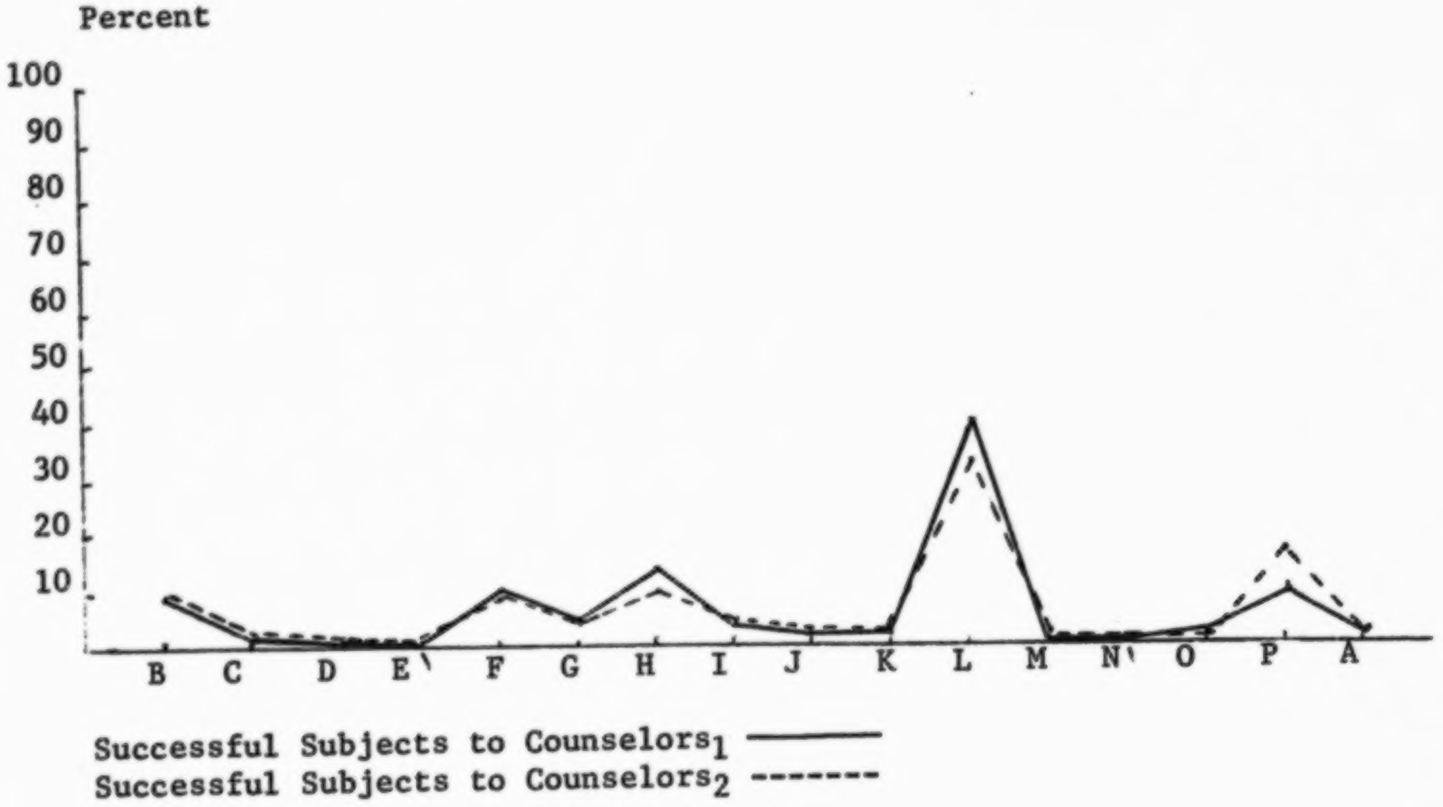


Figure H

Distribution of Percentages of (N=860) Interpersonal Reflexes Sent by (N=9) Failure Subjects to Counselors in First Interviews as Compared to (N=1550) Reflexes Sent by Subjects to Counselors in Later Interviews

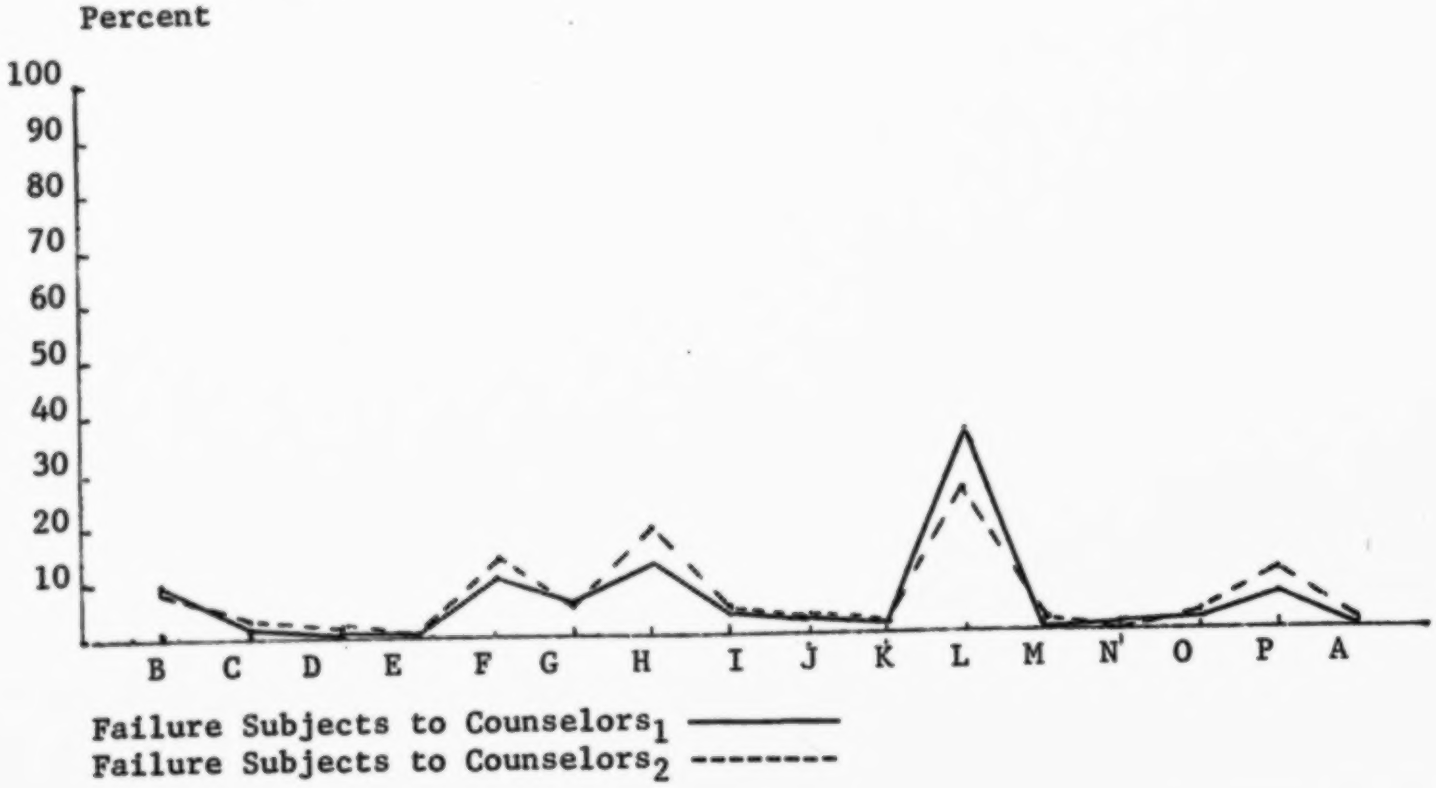


Figure I

Distribution of Percentages of (N=144) Interpersonal Reflexes Sent by (N=9) Failure Subjects to All Others in First Interviews as Compared with (N=165) Reflexes Sent by Subjects to All Others in Later Interviews

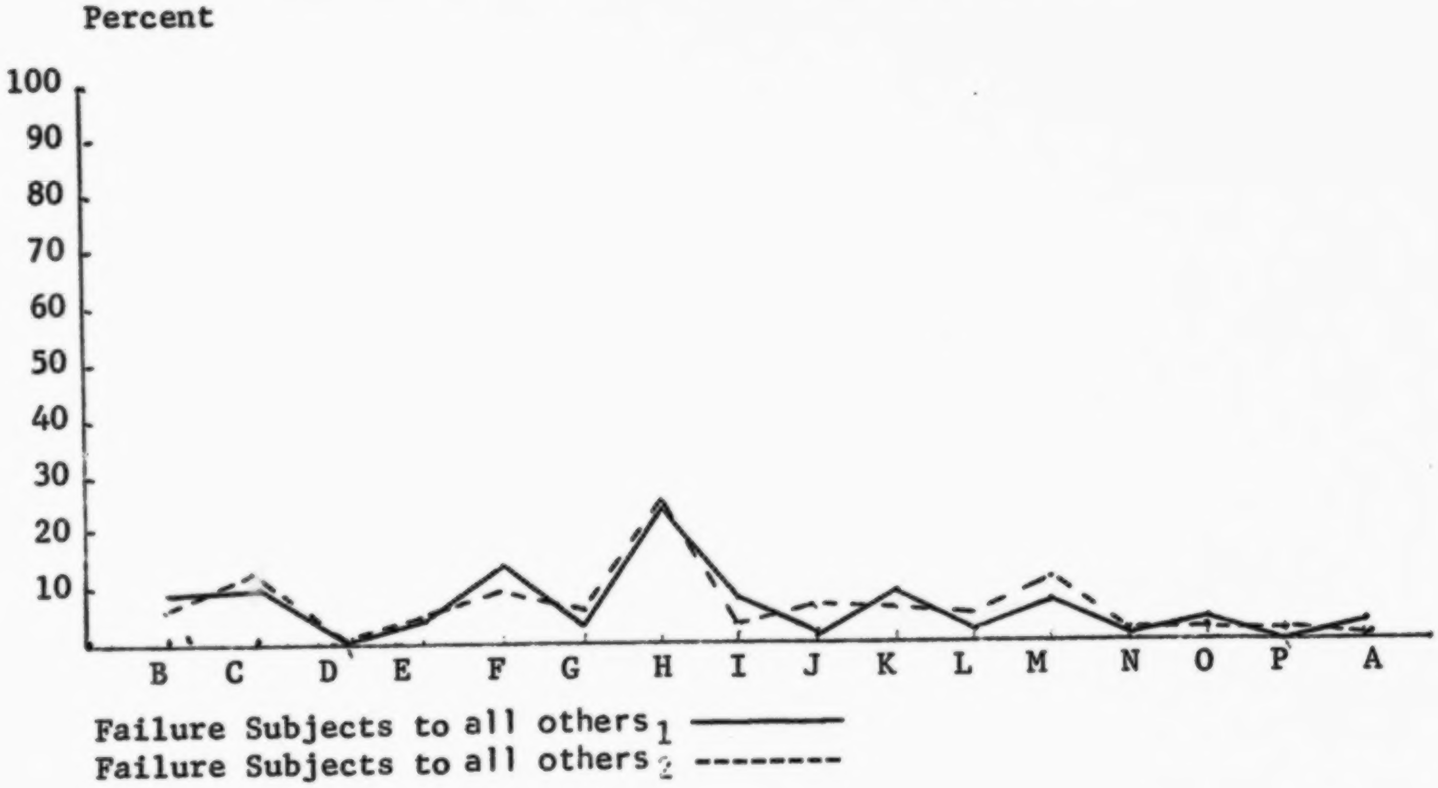
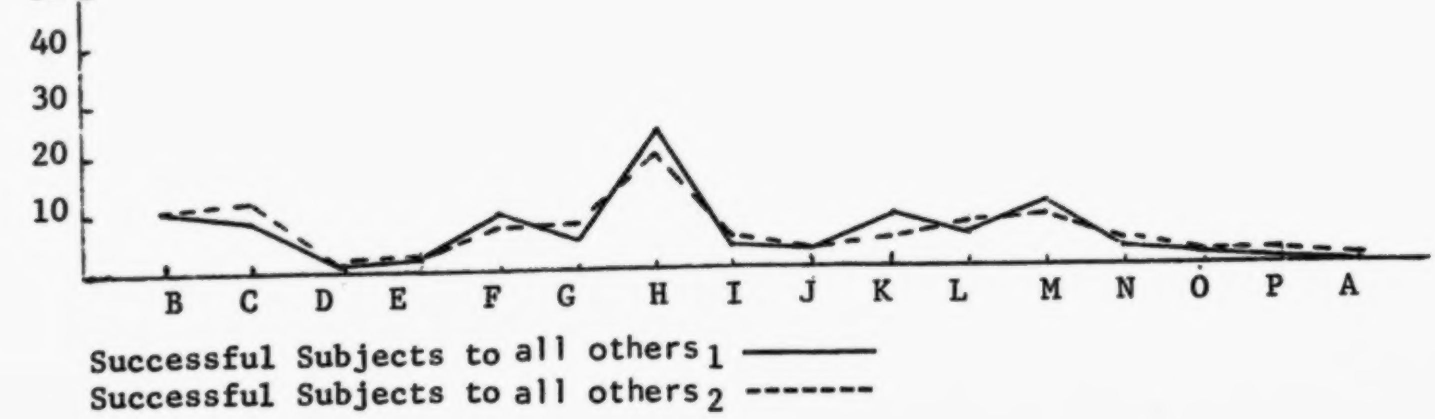


Figure J

Distribution of Percentages of (N=590) Interpersonal Reflexes Sent by (N=23) Successful Subjects to Counselors in First Interviews as Compared with (N=575) Reflexes Sent by Subjects to Counselors in Later Interviews



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Family Learned Behavior as Related to Personal Interactions Outside of the Family

An Interaction Analysis of Counseling Related Behaviors

PERSONAL AUTHOR(S)

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INSTITUTION (SOURCE)

Counseling Center, Michigan State University, East Lansing, Michigan

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IDENTIFIERS

ABSTRACT

The purpose of the study was to investigate the proposition that subjects under stress will, in their behavioral interaction with significant persons, recapitulate the behaviors learned by the subject within the family constellation. The counseling interview was the model used to investigate the relationship between family learned behavior and non-family interaction.

The general design of the study consisted of selecting a sample of (N=16) male and (N=23) female subjects and studying their initial interviews and a sample of later interviews selected by a critical incident method. The interactions of subjects were scored according to the interpersonal rating method of Freedman, LaForge, Leary, and others.

The central hypotheses of the study were strongly supported. Over time and under conditions of stress, the subjects' behaviors converge on intra-familial behavior with parents. In addition, reciprocal behaviors of the subjects in interaction were found to be predictable events. The subject-counselor interactions were in accord with previous research and resembled the subject-parent interaction with some notable exceptions. Additional exploratory analyses were conducted to clarify the meaning of certain subject-parent interactions.

The results were discussed and recommendations for continuing research into personality development and counseling behavior were outlined.